DOCUMENT RESUME

ED 180 737 RC 011 783

AUTHOR Colle, Royal D.; And Others
TITLE Paraprofessionals in Rural Development. Concept Paper.
INSTITUTION Cornell Univ., Ithaca, N.Y. Center for International Studies.
PUB DATE Mar 79
NOTE 134p.

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS *Agricultural Technicians; Agriculture; Community Involvement; Cost Effectiveness; *Delivery Systems; *Developing Nations; Evaluation; Health; *Health Personnel; Nonprofessional Personnel; *Paraprofessional Personnel; Participation; Projects; *Rural Development; Services; Service Workers

ABSTRACT

To establish a better knowledge base concerning the role of developing nation paraprofessionals in facilitating rural poor access to public services and in order to identify problems that arise in developing these patterns of service, an extensive literature search and compilation and analysis of over 50 health projects and 30 agricultural projects according to a set of 25 variables were performed. Paraprofessionals were denoted as those front-line workers with minimal education serving a semiautonomous role in the delivery of health and agricultural services. Results showed that considerably more research and attention have been focused on new levels of health personnel than on similar role capacities in agriculture services. Training materials, curricula, audio-visual aids, supervision procedures for the village health worker, plus extensive classification systems of health personnel have been developed. In contrast, this research activity represents the first effort to compile data on agriculture paraprofessionals. Findings also showed two major areas have been continually neglected-evaluation measures and community involvement. This seemed especially noteworthy since perhaps the major rationale for using low-level paraprofessionals involves their cost effectiveness as inexpensive personnel with a cultural affinity to the community which promotes participation in development. Further investigation and analysis will be required to confirm the hypothesis that the effectiveness, efficiency, and responsiveness of paraprofessionals will vary directly with their success in linking with participatory local organizations. (Author/NEC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED180737

Possible Pgs

12
13
16
17
40
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Royal D. Colle

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ABSTRACT

As part of the Rural Development Committee/USAID cooperative agreement for work on "rural development participation," research on the role of paraprofessionals in facilitating access of the rural poor to public services was recognized as both timely and relevant to the broader concern of participation. The fields of health and agriculture were selected for in-depth investigation. To establish a better knowledge base concerning paraprofessionals and to identify problems that arise in developing these patterns of services, the research activity involved: (1) an extensive literature search including a review of studies not centrally related to paraprofessionals, correspondence with international donor agencies and individual professionals for documented and undocumented experiences on the subject, plus contacts with University faculty and students with knowledge of LDC health and agriculture programs; (2) the compilation and analysis of over 50 health projects and 30 agriculture projects according to a set of 25 variables. Given the array of personnel falling within the confines of the term "paraprofessional," the Cornell team developed a working definition to denote those front-line workers with minimal education serving a semi-autonomous role in the delivery of health and agricultural services.

The results of this initial phase of the Cornell research effort show that considerably more research and attention have been focused on new levels of health personnel than on similar role capacities in agriculture services. Training materials, curricula, audio-visual aids, supervision procedures for the village health worker plus extensive classification systems of health personnel have been developed. In contrast, this research activity represents the first effort to compile data on agriculture paraprofessionals in the LDCs. The Cornell collection of project descriptions in both health and agriculture obviously vary in adequacy and completeness regarding the variables identified for study. Our findings, however, show that two major areas have been continually neglected: evaluation measures and community involvement. The need for both is reiterated throughout the literature, but little attention has been paid to these issues in practice. This seems especially noteworthy since perhaps the major rationale for using low-level paraprofessionals involves

their cost/effectiveness as inexpensive personnel with cultural affinity to the community, thereby promoting participation in development.

Clearly public participation and community involvement are major dimensions of rural development policy. To the extent that paraprofessionals are instrumental to rural development by increasing the access of rural people to essential public services, the question of their relationship to local communities becomes a major focus in the design, implementation, and evaluation of action programs. The general hypothesis governing the Cornell approach to this relationship is that the effectiveness, efficiency, and responsiveness of paraprofessionals will vary directly with their success in linking with participatory local organizations. While there are repeated and generally positive references in the literature to this relationship, there is no body of knowledge to either (1) confirm this major hypothesis or (2) detail the means by which this interface can be established in various task environments. Consequently, in order to formulate guidelines for policy making, the Cornell Research Team proposes to investigate the participatory dimensions of the paraprofessional strategy in-depth through further analysis of documented projects and related literature and from the empirical data collected from field case studies.

CONTENTS

Introduction.....2

Changing patterns of development.....2

Front-line workers.....8

Defining "paraprofessional".....9

Paraprofessional roles in health.....10

Paraprofessionals in agriculture.....15

Rationale for paraprofessionals.....18

Issues and paraprofessionals.....20

- Selection
- Qualifications
- Training
- Supervision and backup support
- Remuneration/incentives

The community and paraprofessionals.....26

Exploring the participation issue.....35

Further study of paraprofessionals and participation.....35

CIS/RDC/PP program.....37

The CIS/RDC/PP project team.....41

Appendices

1. Agriculture projects in CIS/RDC/PP collection.....42

2. Health projects in CIS/RDC/PP collection.....43

3. Summary of selected variables in health and agriculture programs using paraprofessionals.....45

4. Framework for analysis of paraprofessional variables.....64

5. The State of the Literature: Paraprofessionals in Health and Agriculture.....72

6. Bibliography.....79

7. Cornell CIS/RDC seminar series agenda: paraprofessionals in health and agriculture.....95

8. Vitae: Milton Esman.....96
Royal D. Colle.....100

PARAPROFESSIONALS IN RURAL DEVELOPMENT

Wherever one looks at rural development programs, it is likely that paraprofessionals will be part of the action. This concept paper explores some of the dimensions of this human resources issue, touching on technical, administrative and socio-political aspects. It is not intended to be a literature review; however a discussion of the State of the Literature appears in Appendix 5, and a comprehensive Bibliography appears as Appendix 6. The paper is designed to accomplish several specific objectives, including:

1. Highlight the rural development context into which "paraprofessionals" fit.

2. Define for purposes of discussion and research what is meant by paraprofessional. There is no scientific definition, therefore it is necessary to define the term arbitrarily.

3. Outline the major issues and research variables associated with paraprofessionals.

4. Identify some of the main voids in knowledge particularly those which are related to policy issues and strategy.

5. Outline the principal approaches being planned by the CIS/RDC/PP* program to contribute to the knowledge-base on paraprofessionals.

6. Outline the principal CIS/RDC/PP strategies for diffusing the results of its efforts.

*Center for International Studies/Rural Development Committee/Paraprofessionals

Introduction

We have approached the concept of paraprofessionals primarily in the context of rural development in the Third World. To make this task and subsequent efforts more manageable, we have narrowed the focus to the interrelated and vital rural development fields of health, nutrition and agriculture. It may appear that of the three, health receives the greatest attention. This should not be interpreted as a deliberate attempt to place emphasis on health services, but it is a reflection of two related conditions: the more extensive use of health paraprofessionals (as we have defined them) in rural development, and the growing body of literature dealing with primary health care. It has been noted that improving health (which is inextricably entwined with nutrition and agriculture) is basic to improving the quality of life in developing countries, "and this is an important goal of U.S. foreign policy.[1]

Changing patterns of development

In the decades immediately following World War II, development strategy was heavily dominated by economists' concerns for increasing Gross National Products. The assumption of this "old development strategy" was that a sustained growth of two or three percent in per capita GNP would result in benefits spread throughout the economy, eventually reaching most of a nation's population. The way to achieve this goal was to emphasize industrialization. But something went wrong. The expected benefits did not materialize. Economist Harry To Oshima notes that "there is a growing consensus among development economists in favor of a shift to a rural-based, labor intensive strategy of development -- to create more jobs and produce more food." He continues:

> Economists have come out strongly in support of this change in the strategy in the United Nations, World Bank, International Labor Organization, Asian Development Bank, and

---

[1] National Research Council, "Health, Nutrition and Population," U.S. Science and Technology for Development: A Contribution to the 1979 U.N. Conference, National Academy of Sciences, Washington, D.C., 1978, p. 76.

> other international bodies; in the Ford, Rockefeller, Asia, and other foundations; in the international aid agencies of the United States, Canada, the United Kingdom, Sweden, Germany, and other countries. Among university economists we no longer hear talk of big push, take-off, leap forward, unbalanced growth, import-substitution, disguised unemployment, et cetera. Instead the talk is now about integrated rural development, agricultural intensification, appropriate technology, labor absorption, small industry promotion, health development, income distribution, and so forth.[2]

In recent years, national governments, international agencies and private voluntary organizations have generally been giving higher priority to decentralization as an approach to achieving this kind of national development. This strategy which stresses considerable initiative at the local or "micro" level is clearly evident in a recent diagnostic and prescriptive document, To Feed This World, prepared under the auspices of the Rockefeller Foundation and the Lilly Endowment.[3] It frequently appears in descriptions of new initiatives in development projects such as 45 low cost health projects being supported by USAID.[4]

While decentralization and local initiative are not particularly new as a rural development strategy (note for example the "community development" efforts in the 1950s and 1960s), some of the tactics have changed. The new tactics stem from several significant conditions. These include:

1. The geographic and social perimeters of critical government attention vis-a-vis national development have been extended so that they encompass large numbers of people and communities which heretofore have been ignored

---

[2]Harry T. Oshima, "Development and Mass Communication -- A Reexamination" in Communication and Change, The Last Ten Years -- and the Next (Wilbur Schramm and Daniel Lerner, eds.), The University Press of Hawaii, Honolulu, 1976, p. 23.

[3]Sterling Wortman and Ralph W. Cummings, Jr., To Feed This World, the John Hopkins University Press, Baltimore, 1978.

[4]Naomi Baumslag, et al., A.I.D. Integrated Low Cost Health Delivery Projects, U.S. Agency for International Development, Health Delivery Projects, Washington, Vols. I and II, 1978.

or overlooked. Possibly the extreme cases involve efforts to establish or improve health services for nomads.[5]

2. There is an increased recognition and acknowledgement by government agencies of their inability through their usual administrative resources and practices to provide the manpower to reach into many of these areas with the kinds of services needed. In order to increase the access of large and scattered populations in the rural areas to those public services, new and more cost-effective methods of delivery are required. An observation emerging from a meeting of the Ministers of Health of the Americas illustrates the point.

> The Ministers...recognized the imperative need to provide minimal health services to the 40 percent of the population living in marginal areas of large cities and in rural areas who receive no medical service of any kind....(They) assigned priority to extending integrated health services to the largest possible number of people, especially in rural communities. In doing so, they considered not only the existing conditions in those areas but also the fact that rural areas constitute a potential base for development.
>
> They therefore proposed to extend coverage of integrated health services to scattered communities during the decade, giving priority to communicable disease control, maternal and child health, nutrition, and environmental sanitation.
>
> This is a long-range undertaking that calls for fundamental changes in the structure and organization of services and in the utilization of resources. The limited availability of resources makes it necessary to seek new approaches to increase the output of services and, at the same time, incorporate other elements that will multiply the direct impact in the places where programs are executed. The methodology for reaching neglected areas must be adapted to conditions in each country and to resource availabilities, particularly at the community level.[6]

---

[5]For a specific example, see Engineer Saddiq, R. M. Miazad, and Mrs. Torpekai-Miazad, Primary Health Care in Afghanistan, paper prepared for presentation in Alexandria, Egypt, January 4, 1978.

[6]Pan American Health Organization, Utilization of Auxiliaries and Community Leaders in Health Programs in Rural Areas, Scientific Publication No. 296, Washington, D.C., 1978, p. 1.

World Bank President Robert McNamara made a similar point in discussing agricultural development with the Bank's Board of Directors in Nairobi several years ago.

> The small farmer needs credit and water, but he needs technical information as well. And he is not getting nearly enough of it. The projected number of trained personnel who will graduate annually from existing agricultural educational institutions can at best satisfy less than half the total needs of the developing world. In the developed countries, the ratio of government agricultural agents to farm families is about 1 to 400. In developing countries, it is on average 1 to 8000. And only a small fraction of these limited services is available to the small farmer....(T)here is no developing country which produces enough extension agents.[7]

3. Who decides what the nature of rural development "services" should be, how the decision should be made, and who provides the services are no longer questions with easy answers (such as the "government"). In recent years, the "extension model" whereby prescriptions drawn up by a central agency and diffused outward has been challenged by processes in which communities or "beneficiaries" play a significant role in identifying their problems and how they might go about solving them. The work of Paulo Friere and his followers has been influential in stimulating this approach in rural development programs, perhaps with less of the political rhetoric found in Freire's early writing.[8] It is reflected in programs fostered by World Education,[9]

---

[7]Robert S. McNamara, Address to the Board of Governors of the World Bank Group (at Nairobi, Kenya, September 24, 1973), International Bank for Reconstruction and Development, Washington, D.C., 1973, pp. 21-22.

[8]Paulo Freire, Pedagogy of the Oppressed, Seabury Press, New York, 1970; and Education for Critical Consciousness (translated by Louise Bigwood and Margaret Marshall), Seabury Press, New York, 1973.

[9]See specific examples and a capsule summary of Freire and related ideologies, in Lyra Srinivasan, Perspectives in Nonformal Adult Learning, World Education, New York, 1977.

and in programs from Guatemala[10] to Bangladesh.[11] In Sri Lanka, the recent Sarvodaya movement, with its heritage of Buddhist culture, also highlights the changing patterns:

> (T)he mechanism has been created for meaningful popular participation in local development and the people given the opportunity to take control of their own development programs and resources, if indeed they are prepared and willing to do so. An organization like the Sarvodaya movement can play a crucial role in educating and mobilizing the people at the local level for taking advantage of such opportunities created by governmental decision....The government health facilities and health workers, for example, cannot possibly cover all the remote villages in the country by offering curative care, preventive service, health education, inspiration and advice for self-protection measures. However, this gap can be bridged if under the auspices of an organization like Sarvodaya the villagers are organized to help themselves and to appoint health auxiliaries from among themselves to serve as links between themselves and government personnel.[12]

4. Related to the preceding point is the considerable guidance or pressure brought by rural development donor, funding and loan agencies promoting the "participation" of beneficiaries in programs related to alleviating poverty. This ranges from strong explicit directives and policy statements aimed at agency personnel (as in the case of requirements in USAID Project Identification Documents and Project Papers) to demonstrate active involvement of the beneficiaries, to general philosophical/ideological orientations within

---

[10]Mary V. Annel, Rural Health Promotors' Program, Fifteen Years' Experience in Community Health in Huehuetenango, Guatemala, paper presented at the Second International Congress of the World Federation of Public Health Associations, Halifax, Nova Scotia, May 23, 1978.

[11]Manzoor Ahmed, The Savar Project; Meeting the Rural Health Crisis in Bangladesh, International Council for Educational Development, Essex, Connecticut, 1977.

[12]Nandasena Ratnapala, The Sarvodaya Movement: Self-Help Rural Development in Sri Lanka (Essex, Conn.: International Council for Educational Development), 1978, pp. 14-15.

organizations (such as in the Maryknoll Sisters' Rural Health Project in Guatemala, various World Education and World Neighbors' rural development activities, the Sarvodaya Movement, etc.).

5. The increased sophistication of some professions (particularly the health field) has influenced the professional practitioners to settle and practice where they have ready access to the technical system needed to back them up. Hence, the "better" doctors stay in the city where living is better and medical facilities are available to practice sophisticated medicine. And there are other dimensions to the lure of the city. A recent Health Sector Report from a Latin American country put it this way:

> Indeed, it was readily apparent that the practice of a hospital or clinic-based medical or surgical specialty attracted prestige, intellectual satisfaction, research potential, relatively regular hours of duty, and not inconsiderable economic rewards. These were accompanied by congenial living conditions, social amenities, desirable educational opportunities for children, and opportunities for sophisticated living and entertainment.
>
> On the other hand, community medical practice in rural areas offered poor economic rewards, the absence of social amenities, primitive living conditions, virtually no intellectual stimulation, relatively poor educational facilities for children, and 24-hour, 7-day-a-week "on-call" schedules.[13]

6. Set off against this last point is the position that prevention strategies may be more sensible both in terms of economics and family welfare than curative strategies (this applies to health and agriculture), and that important rural development gains can be made using less sophisticated practices and personnel. Dr. Carroll Behrhorst developed a program in Guatemala applying this principle to both health and agriculture.[14] The Training and Visit System being promoted widely in World Bank-supported

---

[13]USAID/Guatemala, Guatemala Health Sector Assessment, Human Resources, Annex 5.12, U.S. Agency for International Development, Guatemala City, 1977, p. 57.

[14]Several of Behrhorst's writings are noted in the Bibliography. The Behrhorst story is told by Edwin Barton, Physician to the Mayas, Fortress Press, Philadelphia, 1970.

agriculture programs is also built on the notion of a-few-simple-steps-at-a-time to accomplish a complex task.[15] Indeed, one national health program (Venezuela) is formally named "simplified medicine." In this case "simplified" means that the health program would consist of simple procedures of front-line medical care, but at the same time have the necessary support from higher levels of the organized services.[16]

Front-line workers

Emerging from this array of interlocking and overlapping conditions has been a substantial interest in introducing additional kinds of personnel -- persons who operate on the "front lines" of service delivery, and whose training is less extensive than the professionals who have generally been associated with providing those services as part of regular government or private sector enterprises. These "new" people have been variously labelled as monitors, auxiliaries, promoters, "guias agricolas," aides, model farmers, village level workers, farmer foremen, (health)(agriculture) assistants, paramedics, et cetera. This is not to suggest that this is really a "new" kind of person: medical auxiliaries called "feldshers" have been used in the Soviet Union since 1917.[17] And "midwives" were delivering babies and carrying out related health and domestic services long before that, largely as independent entrepreneurs.

But what has appeared more prominantly in recent years is the emphasis on using these kinds of people as part of an organizational structure (such as a "health team") in an explicit rural development strategy. In a report

---

[15] Daniel Benor and James Q. Harrison, Agricultural Extension, The Training and Visit System, The World Bank, Washington, 1977.

[16] E. Liisberg, et al., "Venezuela: the Simplified Medicine Programme," in Alternative Approaches to Meeting Basic Health Needs in Developing Countries, (V. Djukanovic and E. P. Mach, eds.), World Health Organization, Geneva, 1975.

[17] Alexander Dorozynski, Doctors and Healers, International Development Research Centre, Ottawa, 1975.

for the National Academy of Sciences, an expert team from the National Research Council noted that:

> "There is growing realization of the need to redefine the appropriate functions of the entire health care team, transferring many curative and most preventive functions from the doctor to other trained personnel, local practitioners, and village health workers. Training must be developed to meet the newly defined job descriptions in the latter two categories because not enough trained, modern health workers are available to provide universal access to health and family planning services. This problem is intensified by the tendency of the more highly trained personnel to reside in cities."[18]

Defining "paraprofessional"

There is no convenient universally acceptable generic term to apply to the kinds of persons implied in the foregoing passages. Recognizing this and aware of the hazards of selecting any such label, we have chosen "paraprofessional" as our operational term. For the purposes of research, documentation, and communication, we have defined paraprofessionals generally as workers (1) with no more than 12 months preservice or technical school training who; (2) have direct service contact with rural dwellers; (3) and who play a semi-autonomous role in making day-to-day judgements and decisions, (4) while operating as part of an organized private or public sector agency. The typical paraprofessional is likely to be indigenous to the service area and to have no more than eight years of formal schooling. Thus, normally excluded from this study are civil service type extension workers (because of length of training), independent midwives (not part of organized agency), and lower level technicians such as nurses aides, ambulance drivers, or workers in such enterprises as a fertilizer distribution center (routinized activities with fairly narrow latitude in making day-to-day decisions).

---

[18] National Research Council, op. cit., p. 79.

Paraprofessional roles in health

There is no widely accepted set of standards governing or guiding the use of paraprofessionals, either across sectors or even within a particular field such as health. The situation is complicated by the diversity of tasks associated with paraprofessionals in different programs. For example, in a USAID project in Panama (#525-0045) indigenous "health assistants" are being prepared to provide the only health care available in some locations.[19] In other cases "health promoters" may be involved primarily in health education, referral and gathering of statistics; or they may be single purpose immunization workers. Sometimes the role extends beyond what some would consider health. For example, a health promotor's activities in a community improvement program in the Purworejo-Klampock District in Central Java, Indonesia (hereafter referred to as Klampock) might include:

- Introducing goat raising to increase family income.
- Encouraging neighbors to build fish ponds to improve family diet.
- Conducting nutrition classes with community women so they can improve their family's diet.
- Encouraging neighbors to improve drains, build better toilets or install glass roof tiles.
- Helping mothers to conduct monthly child weighing sessions so that they can know that their children are growing properly.[20]

The CIS/RDC/PP compiled a file of more than 50 projects in 35 countries representing some 66 different types of paraprofessional health personnel.

In discussing health paraprofessionals, most of the attention will be given to village health workers (VHW). As a recent USAID report notes,

---

[19] Baumslag, op cit., Vol. I, p. 257.

[20] "Volunteer Health Promotors Work to Improve Health and Living Standard," In Action, Vol. 9, No. 1E, n.d., p. 6.

"The peripheral village health worker must be seen as the pivotal and most important point" of large primary health care systems where reorientation is needed for all health workers at all levels.[21] Activities of VHWs fall into four general categories: provision of specific services; screening and referral; assistance and support to health programs; and promotion. In the projects reviewed, VHWs were involved in tasks ranging from simply providing information on health center activities to performing surgery under a doctor's supervision. Most frequently included were: a variety of information and education activities related to the major problems in health, nutrition, family planning, and environmental sanitation and hygiene; first aid; referral to higher level facilities; follow-up of discharged patients; diagnosis and treatment of specific diseases; distribution of food supplements, specific medicines, and contraceptives; monitoring of growth and health in children; and immunization. Activities in any one project seem to be determined by such factors as the natural environment, economic resources, availability of health services, legislation, previous local experience with VHWs, transportation and communication infrastructure, local institutions, and social and cultural requirements.

The recent study of AID assisted projects in primary health discussed the range of duties in primary care projects in eight countries: Afghanistan, Tunisia, Senegal, Mali, Bolivia, Dominican Republic, Jamaica and Pakistan. (See tables on pages 12 and 13).

The report noted:

> Most interesting is the wide variety of tasks and varying work load. Where one worker provides education, another type of village worker (e.g., Dominican Republic health promoter) provides immunizations. The village health worker in Afghanistan provides a wide range of services and has a high task load. In Tunisia the Front Line Worker distributes pills and condoms and gives immunizations. In Senegal the Village First Aid Man is performing tasks that a physician assistant would in the U.S.A. In Mali the Village Health Worker has a very well defined, large number of tasks....

---

[21] Baumslag, op cit., Vol. I, pp. 4-5.

TABLE 4 - DUTIES OF VOLUNTEER AND AUXILIARY HEALTH WORKERS IN SELECTED LOW COST HEALTH DELIVERY PROJECTS

AFGHANISTAN

Village Health Worker

1. Detect and prevent malnutrition in children
2. Advise on weaning practices and food storage
3. Advise on hygiene and sanitation
4. Provide family planning service
5. Provide first aid
6. Diagnose, treat and refer:
   a. children's diarrhea
   b. conjunctivitis, and trachoma
   c. skin infections
   d. worms
   e. bronchitis and pneumonia

17

TUNISIA

Front Line Worker

1. Instruction in use of weaning food
2. Distribute pills and condoms
3. Immunization shots
4. Prenatal screening of mothers
5. Treat simple wounds
6. Screen and treat children at risk of malnutrition
7. Diagnose and treat, common skin disorders, conjunctivitis, fever, anemia, burns and wounds

SENEGAL

Village First Aid Man

1. Manage village health unit
2. Diagnosis and treat (with drugs) malaria, conjuctivitis, headaches, cough, anemia worms, scabies
3. Refer more serious cases
4. Keep records and manage payments
5. Treat simple wounds
6. Assist village chief in birth and death registration
7. Assist in vaccination campaigns

MALI

Village Health Worker

1. Record births, deaths, migration and marriages.
2. Record weights of neonates, infants and children.
3. Promote breastfeeding and weaning foods.
4. Provide iron supplements to pregnant women.
5. Diagnose and treat early malnutrition
6. Refer abnormal pregnancies, serious malnutrition and severe illnesses to health center
7. Provide family planning advice
8. Monitor vaccination status in village
9. Promote hygiene in the home and clean water and sanitation in village
10. Vaccinate pregnant women in 3rd month for tetanus
11. Provide first aid and oral treatment for malaria
12. Distribute appropriate medicines

18

TABLE 4 = DUTIES OF VOLUNTEER AND AUXILIARY
HEALTH WORKERS IN SELECTED LOW COST HEALTH DELIVERY PROJECTS

BOLIVIA

Health promoter

Use manual to treat illnesses and refer more serious cases

Give individual and group talks on illness prevention

Demonstrate keeping height and weight chart in conjunction with feeding program

Demonstrate hygiene and sanitation by, for example, covering a well

DOMINICAN REPUBLIC

Health promoter (goal: one for every 400 people)

1. Record births and deaths
2. Promote breast-feeding and identify malnourished
3. Visit pregnant women and provide iron tablets after 6 months of pregnancy
4. Immunize children against diptheria, pertusis, tetanus, measles. Also immunize women of child bearing years against tetanus
5. Rehydration of serious diarrhea cases
6. Cooperate with midwives
7. Give aspirin for viral respiratory infections

JAMAICA

Community health aids

1. Teach simple health facts
2. Explain the value of different foods and promote kitchen gardens
3. Provide first aid
4. Encourage child immunization and attendance at child clinics.
5. Encourage attendance at family planning clinics
6. Advise known diabetics and hypertensive cases on health maintenance
7. Advise householders on sanitation

PAKISTAN

Community health worker (goal: one per 1000 population)

1. Visit two houses per day and
2. Weigh all children 6 months to 3 years old and refer malnourished to (mid level) Basic Health Unit
3. Record births and deaths
4. Offer family planning services
5. Give DPT and BCG immunizations
6. Check that T.B. patients are taking their medicine
7. Discuss with household; child feeding, food storage, child spacing, personal hygiene and sanitation

> Special nutrition workers are being trained in several projects, e.g., in the Philippines there are nutrition scholars, in Brazil nutrition auxiliaries, and in Thailand nutrition attendants in order to provide nutrition services....
>
> The duties for village health workers...are substantial, particularly when one considers that the workers may in some countries, e.g., Mali and Niger, be illiterate. When health, nutrition, sanitation or family planning duties are added to present duties, there is a danger of the health worker doing none of the tasks well. Joseph notes a paradoxical tendency to expect the most of the village health worker in precisely those countries which have the weakest health infrastructure to support the worker....(Joseph, S., "The Community Health Worker in Developing Countries: Issues in Administrative Structure, Support, and Supervisions," paper presented at a symposium on the Community Health Worker, Airlie House, Virginia, October, 1977, p. 11.)[22]

The broad subject of health services has been organized into functional areas by the Department of International Health, John Hopkins University. Five functional areas were identified: medical relief, including all care of illnesses (MR); family planning (FP); communicable disease control (CDC); environmental sanitation (ENV); and personal preventive and mother and child health services (MCH). This division alone is not specific enough to indicate operationally significant differences among projects. Some projects may concentrate on one or two of these functional areas. Most of them, however, include activities from all areas, since the VHW is likely to be the only source of "official" health services in the village.

Within each functional area, a variety of potential health needs and actions for meeting those needs can be identified. These actions range from simple tasks that can be applied with little training, to complex and risky procedures requiring substantial training and facilities.

The Pan American Health Organization has prepared a detailed framework for such an analysis.[23] Within the overall rural health program, sub-programs in health care, basic sanitation, and statistics are identified. Each

---

[22] Ibid., pp. 24ff.

[23] PAHO, Guide for the Organization of Health Services in Rural Areas and the Utilization of Auxiliary Personnel, Scientific Publication No. 290, (Washington: Pan American Health Organization), 1975.

sub-program is then broken down into components and tasks. For example, the health care sub-program has an MCH component. Prenatal care is an activity within that component, followed by a list of specific actions (tasks) such as weighing, urinalysis, immunization against tetanus, et cetera. The role of individual health workers, including VHWs, auxiliaries, and a supervisory nurse or physician is then identified by tasks, such as: teaches, executes, consults, participates, refers, or supervises. This framework could be simplified somewhat to provide sufficient information on the work actually being done by VHWs which would be more suitable to a socio-political analysis of paraprofessional roles.

Paraprofessional roles in agriculture

Although cases of paraprofessional workers in agriculture are much less frequently reported than in health, and the information on variables is much more limited, there appears here too to be a great diversity in tasks. The accompanying table compiled from cases in the CIS/RDC/PP collection illustrates the variety of task roles assigned to agriculture paraprofessionals.

These tasks fall into four general categories:

1. Education/Supervision, in which the paraprofessional teaches and supervises others, including visiting and assisting farmers, holding group learning sessions (e.g. radio forums).

2. Operational/Service Delivery, including such tasks as planting demonstration or trial plots, distributing agricultural materials, keeping crop production records, monitoring.

3. Community Promotion/Organization, including the promotion of local organizations or general community development, organizing and coordinating village meetings.

4. Liaison/Referral, in which the paraprofessional provides liaison between the farmer and the "professionals" and specialists in an agricultural extension system and facilitates access to services (e.g., credit).

The majority of the agricultural projects in the CIS/RDC/PP collection are a combination of #1 and #4 with the paraprofessional serving as an extension educator of sorts at the lowest link of the extension service system. Many of these projects also include operational components from the #2 category above.

Duties of Front-Line Agricultural Workers

in Selected Agricultural Development Projects

BANGLADESH

Comilla

"Model Farmer"

1. Attend regular classes at training center
2. Practice techniques on own field
3. Teach others at weekly meetings
4. Seek solutions to farmer problems

"Manager"

1. Act as liaison between Thana Center & farmers
2. Conduct weekly village society meetings
3. Keep records
4. Prepare production plans & loan requirements
5. Collect thrift deposits
6. Distribute & collect loans

BOLIVIA

Bolivia Village Development

"Promoter"

1. Identify communities with development potential
2. Identify community leadership
3. Promote community dialogue about needs/problems/solutions
4. Assist in project planning/budgeting/external financing
5. Conduct baseline studies
6. Teach leaders to keep basic records
7. Act as liaison with external agencies
8. Supervise project construction when appropriate
9. Promote community evaluation of projects

COLOMBIA

Small Farmer Development

"Diffusion Agent"

1. Extend recommended technology
2. Collect data
3. Record farm visits

GAMBIA

Mixed Vegetable Scheme

"Demonstrator"

1. Strict extension supervision of onion schemes in 3 villages
2. Trains women on regular (daily) basis in land preparation, planting
3. Weekly follow-up until harvest

16

Duties of Front-Line Agricultural Workers in Selected Agricultural Development Projects

HAITI

Bas Boen Project

"Monitor"

1. Assists farmer in preparing production plan
2. Supervise production activities
3. Keeps records of costs, yields
4. Distributes seeds & fertilizers

KOREA

Office of Rural Development

"Volunteer Leaders"

1. Assist extension agent in development activities
2. Promote Farm Improvement Clubs, 4-H Clubs, Home Improvement Clubs
3. Assist extension agent in crop disease control
4. Conduct short group trainings for farmers, supervised by extension agent

THAILAND

Chao Phya Irrigation Project

"Farmer Foreman"

1. Establish demonstration plots on modern rice cultivation and upland crops
2. Visit farmers in area on fixed weekly schedule
3. Keep demonstration plot record sheets

SUDAN

Gezira Scheme

"Monitor"

1. Promote and organize TV club
2. Serve as discussion leader of TV club
3. Act as liaison between TV club and project
4. Collect data
5. Operate and maintain equipment

17

The Campesino Training Program in Peru is an example of a strict operational program (#2) since the paratechnicians are trained to perform specific cooperative management jobs previously held by professionals.

The Bolivia Village Development Project is an example of primarily #3 since the "promotors" are to conduct the promotion of community development in the broadest sense of the word, based on traditional "community development" philosophy.

As noted above some agricultural activities are carried out by multisectoral paraprofessionals. For example, in one rural development project, health workers were requested by their communities to add agricultural services to their repertoire.[24]

Rationale for paraprofessionals

Paraprofessionals are used for these tasks in health and agriculture for a number of reasons. The first reason has already been suggested in the early part of this paper: people with higher level training are frequently not available to work in the rural areas. In some cases this may result from an overall, nation-wide shortage of professional human resources; in other cases it may come from a maldistribution. In Guatemala, for example, there is unemployment among medical doctors in the capital because of a surplus; on the other hand, there is a critical shortage in the rural areas. This is a pattern repeated throughout the world.

Related to this point is a geography problem. A USAID Project Paper notes, for example, that:

> In some regions the change agent will have to spend several days to reach one community, or to travel from one community to another. Use of promoters will reduce time and travel constraints because these people already live in the countryside....25

---

[24]Mary Hanlon de Zuniga, "Multisectoral and Monosectoral Paraprofessionals: A Latin American Perspective." Seminar at Cornell University, March 2, 1979.

[25]USAID/Bolivia, Bolivia Village Development, Project Paper 511-0499, USAID/Bolivia, 1978, p. 31.

Economics also dictates greater use of paraprofessional personnel. Training expenses and compensation for services are less costly (per person) for paraprofessionals. One AID Health Sector Assessment indicates that 5-7 "auxiliaries" can be trained for the cost of producing one physician; 3-4 auxiliaries can be employed full time for the cost of employing a physician 4 hours a day.[26] (Some of these auxiliaries include rural health technicians, a higher level category of personnel than we are including as paraprofessionals, so in trying to extrapolate to other situations, this can only be used as an approximation.)

Economics and scarcity aside, there is also a feeling that paraprofessionals might even be better suited to the rural development job than more highly trained and compensated personnel. Cornell's Dr. Jean-Pierre Habicht, who served with INCAP in Latin America, notes that medical auxiliaries have other interests and motivations besides the purely medical ones, and therefore, "if one looks at motivation and interest quite apart from cost, there is a point where physicians give less adequate care than non-physicians."[27] USAID/Bolivia reinforces the point, noting "cultural affinity" and "accountability" strengthens the promoter's performance, and

> precisely because he is closer to the rural community -- because he has lived its problems and knows its people -- the promoter is more likely to spend sufficient time in the community itself to perform the promotion and training tasks which need to be accomplished.[28]

And community acceptance is a related issue. In at least one program, Habicht indicates that villagers prefer non-professional primary care personnel to trained physicians.[29]

---

[26] USAID/Guatemala, Guatemala Health Sector Assessment, op.cit., p. 4.

[27] Pan American Health Organization, Medical Auxiliaries, Scientific Publication No. 278, Washington, D.C., 1973, p. 39.

[28] USAID/Bolivia, op.cit., p. 31.

[29] PAHO, Medical Auxiliaries, op.cit., p. 34.

Issues and paraprofessionals

The task organization, or what-does-the-front-line-worker do aspect, relates to a wide range of other variables which are important in building a foundation of knowledge about paraprofessionals and understanding the scope of policy alternatives available.

To organize the information on variables in a systematic way, the CIS/RDC/PP developed an instrument for use in analyzing projects with paraprofessionals. (See Appendixes 1 and 2 for a list of the projects and Appendix 4 for the instrument). Among the major variables are: client focus, how services are rendered, qualifications and selection, training, supervision and back-up services, rewards and incentives, community linkage and support systems, and costs and evaluation. (See Appendix 3 for a project-by-project summary of information related to Functions, Training, Selection, Qualifications, Supervision and Incentives).

Data on each of these variables for every project have not been readily available. However, some observations may still be useful in gauging the general state of knowledge on paraprofessionals.

Selection process: In many of the projects, the "community" plays a significant role in the selection of paraprofessionals. In some cases the community nominates candidates and then the system (i.e., the organization, agency, or ministry running the project) decides who is most appropriate according to its criteria. The Basic Village Education Program in Guatemala and the Kasa Project in India are examples. In other cases, the entire selection process is done by the community (this seems characteristic, for example, of the Senegal programs), or by the system (Iran's "male health workers"). Sometimes the system's selection process includes consultation with the community (Jamaica's community health aides).

What constitutes the "community" is not always clear: it may consist of particular sectoral groups such as health committees, or village leaders, or a community council. Various approaches to selection are identified in individual projects in Appendix 3. The documentation available in the CIS/RDC/PP collection (including particular cases and general discourses) offers little to indicate the relative advantages of any style, and in many cases the available information is too sketchy to provide a clear picture as to how selection actually takes place.

Qualifications: Qualifications of the paraprofessionals are fairly well outlined in Appendix 3. As can be noted, the criteria vary considerably from mere acceptability within the community (Klampock; Senegal) to more specific standards including age, sex, minimum and sometimes maximum number of years of schooling and previous experience, and leadership ability.

In agriculture, often noted qualifications include the candidate's reputation, his indigenous base, and his degree of "progressiveness." The criteria presumably relate to the activities the paraprofessional will be doing and the amount of external support that is available.

A number of projects maintain that a higher-level of literacy is not essential for effective community-based personnel. As stated in the Pakistan case, "Pedagogic enquiries have revealed that six months after graduation, the Health Guards retained the same average information that was imparted to them during training, and that a higher level of literacy does not produce better-informed Health Guards."[30]

It should be noted that some qualifications are only secondarily related to task performance. For example, establishing maximum educational standards seems to be a way of curbing expectations of upward mobility. (Often projects which train and employ paraprofessionals are faced with the problem of attrition. One cause of attrition is the desire of a paraprofessional to move to higher positions.) Though rarely (if ever) officially noted, some projects set political allegiance as a qualification: paraprofessional positions, for example, may be used as part of a patronage system.

Training: Training philosophies vary substantially in the CIS/RDC/PP project collection, and understandably much of the variation stems from the task emphasis in the paraprofessional role. For example, some projects put considerable emphasis on group dynamics and "methodology" (Basic Village Education Program in Guatemala, National Nutrition Program -- PAN -- in Colombia), while others may eschew or give minimal attention to these aspects and more to particular techniques and practices. Incidence and duration of pre-service and in-service training vary considerably from project to project.

---

[30] K. Z. Hasan, "Rural Health Guards in the Northern Areas of Pakistan: A Preliminary Evaluation," Assignment Children, Vol. 33, No. 1, (Jan.-Mar. 1976), pp. 78-87.

At one extreme, some programs may have no pre-service and only in-service on-the-job training (Savar), while others such as in the People's Republic of China, they may have nearly a year pre-service (the arbitrary limit we established in our definition of paraprofessionals) and additional in-service training.

Perhaps more attention is paid to training than any other aspect of the paraprofessional enterprise, particularly in the case of health. Issues in the design of training programs include content, length, location, testing/evaluation, and training materials. The development of training activities for paraprofessional workers is often made difficult by the lack of formal education of most candidates. In addition, Habicht notes that there is often a cultural gap between Western medical models of causality and treatment and traditional views of disease and health.[31]

A basic model of VHW training is "competency-based," i.e. it "prepares students to demonstrate job-related competence by achieving specific behavioral objectives", not necessarily providing theoretical understanding. A detailed description of a competency-based training design is presented in Smith.[32] It includes analysis of tasks, setting of training objectives, three phases of instruction (classroom, clinic, and supervised work), evaluation of students, management, and implementation of training. Training modules in core skills, general medicine, trauma and emergency, mother and child health, community health, and management have been developed, along with extensive materials. While this system is intended for the training of medical assistants (Medex), it can be simplified and adapted for design of VHW training.

Habicht outlines a related approach to training, based on the principle that "one does best what one does most often."[33] This system requires that

---

[31] Jean-Pierre Habicht, "Delivery of Primary Care by Medical Auxiliaries: Techniques of Use and Analysis of Benefits Achieved in Some Rural Villages in Guatemala," in Medical Auxiliaries, Pan American Health Organization Scientific Publication No. 278, Washington, D.C., 1973.

[32] Richard A. Smith (ed.), Manpower and Primary Health Care; Guidelines for Improving/Expanding Health Service Coverage in Developing Countries. The University Press of Hawaii, Honolulu, 1978.

[33] Habicht, op. cit.

medical care be organized so that everybody would perform the tasks they perform most often, and they would be trained only in those tasks. Training would be given by an experienced VHW, consisting first of observation and study, followed by supervised practice. When practice alone became possible, routine "quality control" procedures would be instituted, involving objective assessment of performance according to prepared protocols. Tasks are analyzed in discrete steps so that bottlenecks in concept or skill can be corrected.

Smith and his associates stress that task analysis must be translated into culturally relevant training modules.[34] For VHWs, the requirements are relatively few and discrete, so that training can be broken up into short sections. Practice is emphasized over theory and clinical exercise over classroom time. The level of skill and knowledge required is defined explicitly in the objectives of each module.

Training can be intermittent or continuous. Full-time salaried workers may be more amenable to continuous training. Part-time voluntary workers may require periodic training sessions. VHWs' lack of familiarity with formal education may also be an argument in favor of intermittent training, as their attention span may be short and capacity to assimilate unfamiliar information limited.[35] In slack labor periods, full-time training may be possible.

In-service training particularly offers some important challenges to agriculture and health program project planners. Because of the remoteness and isolation of the paraprofessionals in their work environment, it is often difficult logistically to arrange for regular in-service training. Little has been done to develop in-service training which could be accomplished in the field so that the worker does not have to leave the community to take training. Manuals help. Two-way radio has provided opportunities for in-service training which is incidental to its consultative and administrative uses. Self-actuated training modules using simple audio cassette technology

---

[34] Smith, (ed.) op. cit.

[35] J. E. Rohde and R. S. Northrup, Mother as the Basic Health Worker: Training Her and Her Trainers, paper presented at Bellagio Consultation: New Type of Basic Health Services World-Wide and the Implication for the Education of Health Care Professionals, 1977.

are yet to be explored in any significant way, despite the extensive use of cassettes in communicating with rural people.[36]

Supervision and backup support: While frequent and regular on-site supervision is cited as fundamental to the paraprofessional's role, the support offered in the various projects varies from virtually autonomous paraprofessionals receiving very limited, sporadic supervision to highly structured programs where visits by a supervisor are mandated on a regular basis.

The use of paraprofessionals may increase the demands throughout the health and agriculture system because of needed supplies, materials, manpower, transport, et cetera. Adequate and functioning supply lines and referral systems establish the paraprofessionals' credibility in two important respects: making good on their ability to provide services and making referrals possible when the necessary task is beyond their competence.

An interesting example of a program emphasizing support and referral is the Lampang Project in Thailand which is a quasi-experiment design with USAID, American Public Health Association (APHA), and University of Hawaii assistance. After the target area was sensitized to the project, advisory groups and consumer adjunct committees at the local level were formed. Three new levels of health personnel are involved to supplement and extend the present system. These include: (1) "Communicators" volunteers (one for every 10-12 households). They are the first point of contact, initiating the flow of patients into the network of integrated services. They may do simple first-aid but mainly screen and refer. (2) "Health Post Volunteer" (one per village). They monitor the 10-12 communicators and give basic health care to those patients referred to them by the communicators or who come to them directly. For patients requiring more sophisticated care, the "volunteer" refers them to the health centers where, (3) the "medics" (first level of the official health delivery system) work

---

[36]Royal D. Colle, Strengthening the Role of the Paraprofessional Through Innovative Training, paper prepared for the Social Development Center, United Nations, New York, 1978; "Case Studies in Cassette Communication," World Association for Christian Communication Journal, Vol. XXIV, No. 3 (1977).

under the supervision of physicians. In addition, younger indigenous midwives are being sought out and given training in hygienic methods.[37]

Supervision is important not only to insure competence and responsibility and to provide human and physical backup resources, but also to provide paraprofessionals with a sense of playing an important and appreciated role in the health or agriculture program. While it is very difficult to uncover this morale-and-recognition issue in the CIS/RDC/PP and other documents, observing, chatting and interviewing in the field suggests that not only is this a vital element in these kinds of projects, it is also consistently overlooked by people running the system. Perhaps the most suggestive manifestation of it is the high dropout rates often associated with paraprofessionals.

As in the case of the other variables, the scope of alternatives is broad, and no clear cut "best patterns" have emerged. What does seem to emerge, however, is a concern over the long distance between the front line worker and the next echelon of the organization. In Guatemala, the government is trying to reduce that span by introducing intermediate level auxiliaries called "TSRs." The "Medex" system also is a response to this dilemma, with the doctor extender connecting the peripheral health worker to the "larger system." [38] In the Savar project, one tier of paraprofessionals is reported not to be efficient enough. The village-based health auxiliary, a member of the village community who is supervised and guided by the paramedic, is seen as an essential link in the chain that connects the project services and the people.[39] Similar patterns appear in health programs in Bangladesh (Comilla) and Niger. The Village Extension Worker in the Training and Visit System provides somewhat the same function for the "contact farmer."

Remuneration/incentives: Payment for services performed by paraprofessionals obviously vary with the specific situation, but it should be noted

---

[37] Somboon Vachrotaic, "The Lampang Project, An Alternative Approach to Rural Health Care in Thailand," Assignment Children, Vol. 1, No. 33 (Jan.-Mar. 1976).

[38] Richard A. Smith, "Designing an Appropriate Approach to Improved Health Service Coverage" in Smith, op. cit., p. 21.

[39] Ahmed, op. cit., p. 47.

that of the 48 types of health personnel for which the CIS/RDC/PP has information, 34 of the 48 receive some sort of explicit, tangible payment, whether it be in-kind services, an honorarium, incentive payment, or full salary. It is generally felt, however, that these remunerations are meager and insufficient. Often the paraprofessionals spend a substantial amount of their time on other responsibilities which then may cut into the time devoted to health or agricultural promotion.

The majority of the paraprofessionals identified by CIS/RDC/PP are considered "outside the formal health system" so therefore do not participate in the normal channels of promotion nor do they have other kinds of benefits. Among others, the India Rural Health Scheme makes specific mention of the fact that the "community health worker" is not a government functionary.

While the acceptability of the remuneration/incentives depend upon the cultural, socio-economic context, two contrasting points of view are notable: documents from this same project in India report that the health workers have obviously only taken up the work as a pasttime in the absence of a better alternative and find the salary meager, while the Klampock project in Indonesia indicates that there is "higher moral authority" as a volunteer than as a paid health worker. A philosophy similar to the latter seems to prevail in the Rural Health Project in Huehuetenango, Guatemala run by the Maryknoll Sisters. Whether the moral commitment and the desire to serve is substantial enough payment (or indeed, if there are other important rewards such as power, influence, et cetera which are linked to this service) remains to be analyzed.

The Community and paraprofessionals

In recent years, much of the analytical and planning attention to the paraprofessional involvement in development programs has been given by specialists in particular sectoral fields. Prominant has been the emphasis on training, task description, recruiting standards and other technical aspects of paraprofessional operations.[40] Substantial attention seems to have

---

[40]See PAHO (1975), op. cit.; PAHO (1978), op. cit.; Smith (ed.), op. cit.; "Study on Training Policies and Programmes for Paraprofessionals in Social Welfare" (Aide Memoire), Social Development Centre, The United Nations, N.Y. n.d.; American Public Health Association, The State of the Art of Delivering Low-Cost Health Services in Developing Countries: A Summary Study of 180 Health Projects, APHA, Washington, 1977.

been given to organizational matters within the ministry or service in which the paraprofessional operates. For example a monograph being prepared by Doris Storms for the APHA (Design and Management of Auxiliary Based Health Programs: Lessons from Developing Countries) summarizes current perceptions on the selection, training, functions, supervision and evaluation of health auxiliaries.[41]

An aspect which has received little analytical treatment is the community structure in which paraprofessionals operate. The Ministers of Health of the Americas note in their Final Report that:

> Participation by the community, through its representative group, in the planning of health programs is a highly important but little explored element. Such participation is necessary for any program in any country. It should be based on rules and procedures laid down by higher levels of authority and adjusted to local problems.[42]

Local involvement is a vital issue which confronts agencies embarking on a paraprofessional human resources strategy. Many of the variables discussed earlier often have important community participation elements in them, as in the case of selection, incentives, and supervision. A WHO/UNICEF study suggests for example that primary health workers can be recruited from among villagers and be trained in or near the village, "so they truly belong to the people." The role of the community may also be important in managing the system since the remoteness of the paraprofessionals' posts makes it more difficult for the health administration system to supervise and evaluate their work. Furthermore, with local participation may also come other kinds of local resources.[43]

WHO, for example, lists among its five principles essential to success in primary health care that the program must (1) relate closely to the life patterns and perceived needs of the community, and (2) maximize the use of local resources and promote health self-reliance through

[41] Salubritas, Vol. 2, No. 4 (October 1978), p. 3.

[42] PAHO (1978), op. cit., p. 3. The same position was echoed in the International Conference on Primary Health Care at Alma Alta, USSR, 1978. See WHO/UNICEF, Primary Health Care, Geneva, 1978.

[43] V. Djukanovic and E. P. Mach (eds.), op. cit., pp. 16-19.

education.[44] Throughout AID's listing and description of primary health projects comes the significant role of the community in determining the success of projects with local paraprofessional manpower components. For example, one of the issues to be faced in an AID supported Rural Health Project (683-0208) in Niger is the following:

> Local community interests in the delivery of rural services through the VHT (village health technician) concept must be maintained for project success. This is particularly significant since the volunteer village health workers in the Project are selected by the community.[45]

To standardize efforts at using auxiliary and paraprofessional health personnel in various countries, PAHO's Department of Human Resources has identified some 30 factors necessary to the successful establishment of a program for the training of medical auxiliaries. Among the most important noted are community-related issues: e.g., promotion of the auxiliary program "at all levels, from the Ministry of Education to...the communities that will use the auxiliaries."[46]

Outlining strategies for implementing health programs in rural areas, health professionals attending a seminar in Venezuela on "utilization of auxiliaries and community leaders in health programs in rural areas" noted several characteristics should be emphasized in promoting the rural health program. These included: "that easily trained auxiliary personnel can be used" and "that the community will be brought into the health work."[47]

In noting that the main need today is to develop systems through which effective health care can be made both accessible and acceptable to the people, WHO experts suggest that:

---

[44] Baumslag, I., op. cit., p. 4.

[45] Ibid., p. 61.

[46] Ovidio Beltran, "Auxiliary Personnel to Expand Health Services in Rural Areas" in PAHO, Medical Auxiliaries, op. cit., p. 56.

[47] PAHO (1978), op. cit., p. 15.

> "Inadequate community involvement in providing health care is a key obstacle in reaching this goal....(T)here must be a clearly defined relationship between the two components of front line health care -- the activities carried out by the government and those carried out by the people themselves. The relative contribution of each of the two partners to health care activity as a whole should be determined by the political and socio-economic situation in each country or geographic area."[48]

A consistently made observation or assertion is that "the quality of the relationship of the village health worker to his or her community is the key to success of primary health care."[49] Some cases seem to bear out the point. The Savar Project in Bangladesh used paraprofessionals for "certain essential tasks conventionally performed only by highly trained and paid professionals." The relationships among community, development workers, and success is poignantly captured in one observer's comments after visiting and studying the program and talking with persons associated with it:[50]

> There is an acute awareness in the project of factionalism and interest conflicts in the villages and of the fact that a village is not really one communal entity. The interests of the larger land owners, money lenders, petty traders, and the quacks in the process of social and economic change are not the same as those of the landless laborers, the mini-farmers, the craftsmen, and the destitute women...A broad-based community participation, with more than token representation of the underprivileged majority in any formal participatory mechanism, is seen as the best remedy for intra-village conflicts affecting the project activities. But the operational steps for implementing this idea are yet to be worked out and tested (p. 39)...
>
> Without roots in the community, it is very difficult for a program to launch educational efforts that address themselves directly to the various practical needs of

---

[48] V. Djukanovic and E. P. Mach (eds.), op. cit., p. 16.

[49] Baumslag, op. cit., pp. 28-29.

[50] Ahmed, op. cit.

> different rural groups. It is possible that, when the health and family planning activities of the project become truly village based, the project workers become part of the community, and the community members become project workers (not only in health and family planning but also in hygiene, nutrition, agricultural production, cottage industries, and social and cultural aspects), a conducive environment will be created for initiating and maintaining relevant educational efforts. As the project activities become truly based in communities, the process of villager involvement in planning, managing, and assisting these activities becomes itself the means for "conscientization" and learning for all the village people. (p. 41)
>
> If the Savar Project in its initial phase had looked beyond meeting specific and highly visible needs in the health and family planning field and had paid more attention to working out a participatory process, probably some of the steps only now being explored could have been taken much earlier. The participatory process may sometimes impose a price in short term efficiency and speed, but in the long run it will pay off. (p. 50)

Throughout the growing literature on primary health, nutrition, and agricultural development programs, there is an unfortunate ambiguity about the nature of the community involvement mentioned in these passages. Note for example the major reference to community involvement in Smith's guidelines for improving health service coverage in developing countries. Other than being involved in selecting candidates for training and "in the planning process," the program operations chapter offers few specifics about the community's role.

> The local community takes on a distinctive role during the operation of a primary health care program....Through the eyes of the health professional, the target population is seen as the people to be served, as extra hands to help in meeting the objectives of the unit, and as a consultative group in the identification of health-related community needs....Success of a CHW (Community Health Worker) program will depend on its adaptability to the village, its resources, and its needs.[51]

---

[51] Mona R. Bomgaars, "Primary Health Care Program Operations in Smith (ed.), op. cit., pp. 141ff.

The Final Report of the Venezuela seminar mentioned earlier indicates that "an informed, active and vigorous participation by the community is an essential prerequisite." It continues: "In view of the fact that present human resources are insufficient to reach the objectives, it is necessary, in addition to motivating the population to participate in the work, to adopt new strategies for solving old problems."[52] But there is little to reveal what participation means in this context.

In AID's recent compilation of primary health projects, the following passage seems to suggest a need for a broader foundation of knowledge, including the community participation dimension:

> What is clear about the projects described in this volume is that integrated low-cost health services will be delivered on a large scale by health auxiliaries at the initiative of governments in a setting where many of the personnel traiping and organizational issues remain to be worked out.[53] (Emphasis added.)

That the organizational issue relates to an issue far more complex than a health or agricultural ministry's organizational or administrative structure is hinted at by Dr. Croft Long, former USAID/Guatemala health officer, who has observed that the use of paraprofessionals is more a political situation than a medical one.

The CIS/RDC/PP materials provide clues as to some of the issues involved. For example, Berman notes that discussion of community participation in health activities is often a misleading simplification related to a complex social structure in the villages.[54] Even local projects successful in mobilizing the "community" are working in an environment in which the range of permissable action and institutional development is closely regulated. Looking specifically at Indonesia, Berman suggests that village-level institutions in Java typically reflect the influence and interests of the more powerful inhabitants, as does the local administration. Selection of VHWs, distribution

---

[52]Paho (1978), op. cit., p. 3.

[53]Baumslag, I, op. cit., p. v.

[54]The following discussion is based on Peter Berman, Village Health Workers in Java: Initial Projects and Their Implications for Major Programs, unpublished manuscript, Department of Agricultural Economics, Cornell University.

of social and pecuniary benefits from village-level services, and popular perceptions of projects will be affected by these arrangements. Where the local elite is interested in equitable improvements and facilitates expression of popular needs, active community participation has proved possible. However, this should not obscure the fact that such conditions are not universal in Javanese villages and certainly cannot be created administratively. Dynamic community participation in most villages is unlikely. A diminution in the extent and equity of the distribution of benefits could be expected.

Despite these doubts, Berman acknowledges that expansion of some type of VHW services may reach more of the rural population than the present health-center-based services. Neighborhoods are organized into semi-official groups (rukun tetangga) where the sense of common responsibility may still be strong. Decentralization of services through the use of highly localized health workers may minimize the capacity of the local elite to control benefits.

Creative leadership in the villages is frequently mentioned as important for the success of VHW projects. In the Banjarnegara Regency of Central Java, village leadership organizes village activities and facilitates communication between the health service and the village. Reports praise village heads who are imaginative and knowledgable or teachable ("creative and critical") as well as have the confidence of village residents. The local physicians are also successful leaders, in being able to generate village interest in their projects and inject new procedures into health center operations. In the Comprehensive Community Health Care -- Education Program (CCHP-EP) carried out in villages near Yogjakarta, village heads play a less dramatic but still essential role, as medical faculty and students temporarily provide guidance.

The Banjarnegara and CCHC-EP projects initially sought out receptive leaders and communities with whom the project leaders could cooperate. Government-sponsored expansion of those models may not benefit from widespread interest or acceptance by village leadership. However, despite indications that concerned local institutions and capable leadership are quite important, their absence may not eliminate the potential for health and other benefits from the use of VHWs.

Another complexity in dealing with paraprofessionals and participation is the term "community" used often in the literature with little explanation of its meaning. Rural villages may be "communities" only in the sense that

inhabitants can be identified as living in and belonging to a particular geographical area. Assuming that an agglomeration of houses and fields implies common goals and values or a collective capacity to determine priorities, make decisions, and allocate resources may be erroneous. Divisions of caste, class, ownership of assets, family, political history and power, et cetera, may create a situation where "community" decisions are, in fact, made by an elite minority and enforced on the majority. The presence of such a situation may or may not influence the effectiveness of an agriculture or health program.

The degree of community involvement varies but the process often begins with a "sensitization" of the community to its development needs and problems. While in some cases this may be prompted by paraprofessionals themselves, this sensitizing process is usually conducted by outsiders from the sponsoring agency whether it be the formal health service, private individuals, foundations, church groups, universities, government CD agents. A rural health effort in Nigeria demonstrates this latter approach.[55] The Lardin Gabas Rural Health Programme, initiated under the auspices of the Church of the Brethren Mission (CBM) by a doctor and four local Nigerians, calls for active community involvement. It stresses the necessity for changing behavior patterns related to health, through an education process based on traditional means of learning in the local culture.

The process begins when a Programme official initiates a visit with the village chief, ward heads, or other important village men of a potential programme area. If, through these people, the village shows interest, the official returns again to talk with as many of the village people as can be gathered together. The needs of the village as expressed by the villagers emerge as they discuss what their health problems are and what they would like to do about them. The Programme weighs interest heavily; it is measured by the percentage of the village turning out for meetings, participation and planning in the meetings, and the percentage of younger adults present. If the villagers are sufficiently sensitized, a village health committee is formed, and it selects

---

[55]The following is based on World Council of Churches, "Rural Basic Health Services: The Lardin Gabas Way," Contact, 41, Geneva, n.d.

potential village health workers. Qualification are set by the Programme to avoid village politics from entering into the selection.

Other projects involving such health committees include: the Barrio Aides and the PRRM in the Philippines, the Maryknoll's Rural Health Project in Guatemala, the Lampang Project in Thailand, and the Montero project in Bolivia. In cases where a specific health committee is not formed, the promotion of the health program may fall under the auspices of the village community development committee, e.g., in Indonesia, Senegal, Mali, and Haiti.

Village health committees often come into being either by being freshly created or through the co-optation of an existing community council. These committees then, may participate in the village-level health planning, personnel selection, management decisions, and to provide feedback and support. They often supervise the VHWs and are responsible for their salary. Obviously, the functioning of these committees must vary considerably and merit extensive investigation.

The community may also contribute to the health service by providing land for a clinic or health post, labor in upkeep and maintenance, participation in self-help projects, provide the VHW housing and/or salary, contribute financing to the VHW's health training (Piaxtla), or sponsor local health insurance schemes (e.g., the Philippines - Barrio Aides; Indonesia - Klampok; Bangladesh - Savar; and areas in Senegal).

In summary, community participation may include one or several of the following kinds of involvement:

1. Identification of community needs and problems.
2. Selection, recommendations, approval, or certification procedures relating to the employment of paraprofessionals.
3. Specification of paraprofessional's responsibilities, style of practice, or work norms.
4. Evaluation/supervision of paraprofessionals' performance.
5. Responsibilities for their reward/compensation.
6. Responsibilities for the provision and management of paraprofessional support system (facilities, supplies, transportation).
7. Performance of supportive services -- data collection, mobilizing the paraprofessionals' constituents for programs (e.g. mothers' clubs), assisting paraprofessional (e.g. with volunteer workers), et cetera.

8. Providing linkage/access outside of community.
9. Carrying out policy, management, or leadership activities in planning.

Exploring the participation issue

It is clear that aside from the technical and resources issues involved, two intersecting socially significant forces are central to rural development programs related to health and agriculture: the use of paraprofessionals and the greater participation of local communities in the development process. Thus, the success of a development effort is likely to depend as much on the social, political and economic character of the community as on the technical resources offered by a government or private sector agency.

Among the community factors which may influence the role and effectiveness of paraprofessionals are:

1. Stratification characteristics, including the status of women, ethnic divisions, and caste/class structure.
2. Community structure in terms of number and character of local organizations, and extent of participation in these organizations.
3. Cultural distance from the national mainstream.
4. Community "norms" (based on religious, kinship, tradition or other sources of solidarity).
5. Local political structure, including its relationship to external (e.g. national) political structures.
6. Geographic remoteness of the community.
7. Density of settlement patterns.
8. Barriers (geographic, economic, cultural) between consumers and service providers.
9. Economic well-being of the community and its resources.
10. Extent of modernization of the community.
11. State of development of local health/agricultural institutions.

Further study of paraprofessionals and participation

Clearly public participation and community involvement are major dimensions of rural development policy. To the extent that paraprofessionals are instrumental to rural development by increasing the access of rural people to essential public services, the question of their relationship to local communities becomes a major focus in the design, implementation and evaluation of action programs.

The general hypothesis governing our approach to this relationship is that the effectiveness, efficiency, and responsiveness of paraprofessionals will vary directly with their success in linking with participatory local organizations. While there are repeated and generally positive references in the literature to this relationship, there is no body of knowledge (1) either confirming our major hypothesis, (2) detailing the means by which this interface can be established in different task environments, (3) identifying and analysing the problems that are likely to arise in implementing paraprofessional activities within a participatory framework, or (4) prescribing criteria or procedures for designing, implementing and evaluating paraprofessional services along any of the dimensions of the scheme that we have developed (page 20) for analysing paraprofessional activities.

While we cannot examine the participatory aspects of the paraprofessional phenomenon in a vacuum, "community" participation will constitute the main focus of our future research on paraprofessionals in health and agriculture in rural development programs. We shall investigate such questions as these:

1. What are the differences in paraprofessional performance when they are selected with significant local involvement and when they are selected primarily by the service delivery agency? At a more subtle level of analysis, what alternative methods and procedures for local involvement in the selection process are likely to contribute to more effective performance?

2. What kinds of local organizations are likely to yield active involvement of local people in (a) using paraprofessional services, (b) mobilizing local information, management, labor, and financial resources, and (c) guiding, supervising, and supporting paraprofessional services? How do different structural patterns in communities (e.g., stratification, segmentation, solidarity) and traditions of cooperation affect the kinds of organization that are most suitable?

3. Where suitable local organizations do not exist or adequate public involvement has not been achieved, how can paraprofessionals and those responsible for their activities promote, initiate, and sustain the necessary organization and involvement?

4. How can the orientation, training, and backup services provided to paraprofessionals facilitate their ability to involve and work with local groups?

5. What meaningful participation "indicators" can be developed which will encourage government agencies and other key organizations to include participation as a factor in evaluation designs?[56]

CIS/RDC/PP program

Phase I. The first phase in the CIS/RDC/PP effort has included the collection and analysis of rural development projects using paraprofessionals in the delivery of health and agriculture services. This step has helped crystallize the issues raised in this paper, and especially highlight the paradox of a widespread appeal for community participation with only a modest specification or consensus as to what community participation means in this context.

Two simultaneous steps follow. One is the further analysis of projects on hand, supplemented with additional information through direct inquiries, to develop more completely the dimensions of community participation in these projects. This should enable us to enlarge our list of hypotheses and begin to suggest guidelines for policy making and strategies.

Second is the sponsorship of a seminar series on paraprofessionals. The series is designed to bring to the Cornell campus persons with field experience as well as officials of international development agencies to share their insights concerning paraprofessionals with Cornell graduate students and faculty with similar interests. In addition to the intellectual stimulation being gained from the seminar series, a concrete output will be a short monograph summarizing and commenting on the cases and issues presented. (See Appendix 7.)

A chart on page 40 shows the scheduling of these activities and the ones described below.

Phase II. This phase concentrates on sharing some of the early results of the study with persons interested/involved in work with paraprofessionals and obtaining feedback and other perspectives. First is an informal one or two day Workshop on paraprofessionals proposed for Washington, D.C. during Spring 1979. Purpose of the Workshop is to bring together a small number of key persons

---

[56] "Most big programs talk about participation but don't have or take time to develop it. They are interested in quantitative indicators, because they need to show results. Community participation doesn't have their kinds of indicators." Mary Hanlon de Zuniga, advisor to the Association of Private Health Services in Guatemala, and to the Behrhorst Foundation, in a seminar at Cornell University, March 2, 1979.

in organizations which have a significant involvement with paraprofessionals as a component of health and agriculture rural development programs. The intent would be to share their and our knowledge,questions, and concerns about this method for delivery of basic services, as well as to share plans for future activities in this field. An important part of the Workshop would center on the issues raised in this concept paper -- and particularly the issue dealing with community participation and paraprofessionals. Persons invited would include representatives of various offices of USAID, representatives from The World Bank, USDA, USHEW, APHA, American Home Economics Association, World Education, World Neighbors, Save-the-Children Foundation, Rural Development Services, and others.

A second step in this phase is to send copies of this concept paper to the field to solicit reactions and recommendations, as well as more detailed information on specific cases of community participation. During the early stages of the CIS/RDC/PP project, the staff established many contacts with people who shared reports and other documents which contributed significantly to Phase I. Distribution of the concept paper will continue the dialogue. This will be done in Spring 1979.

The third step of this phase is the preparation of six to eight case studies developed from visits to projects using paraprofessionals. These case studies are intended to add first-hand observations of empirical experience to data collected through documentary surveys. The approach is similar to that being used by the International Council for Educational Development in its series of case studies "to help practitioners help the rural poor." However, the cases in this activity will be selected <u>especially for their relevance to paraprofessionals</u> and, among other things, the insights they provide on various aspects of community participation. The plan is to go beyond description in an attempt to abstract principles and working hypotheses. While it may be possible to do some of the case work on the campus, we anticipate that material readily available -- having been produced for other purposes -- will not deal completely enough with the paraprofessional data we will need, e.g., with the major variables around which we have organized our preliminary literature/ documentation survey and this concept paper, and which we consider essential for an appreciation and understanding of paraprofessional dynamics. This activity will take place during Summer 1979.

Coupled with these case studies will be several "action-research" projects undertaken in conjunction with USAID Missions. The specific focus of the research remains for negotiation with the field missions, but studies might (1) monitor, possibly initiate, and ultimately evaluate measures to expand the availability of public services through local organizations with the use of paraprofessionals, (2) develop and test methods for increasing the effectiveness of paraprofessionals through, for example, improved communication linkages among a national government service, its field staff or installations, professionals, and organizations and the population in rural areas; or (3) other studies suggested through workshop and field contacts. These are scheduled to be initiated in the summer or fall, 1979.[57]

Phase III. This phase represents an effort to start bringing together the results of data collection, studies, observations from and in the field, and material from other sources, and to diffuse it to users. First is a preliminary state-of-the-art paper, which is to be prepared in Spring 1980. During the following summer, an international conference is scheduled which will consist of a review of the state-of-the-art paper as well as additional papers submitted by others in health and agriculture.

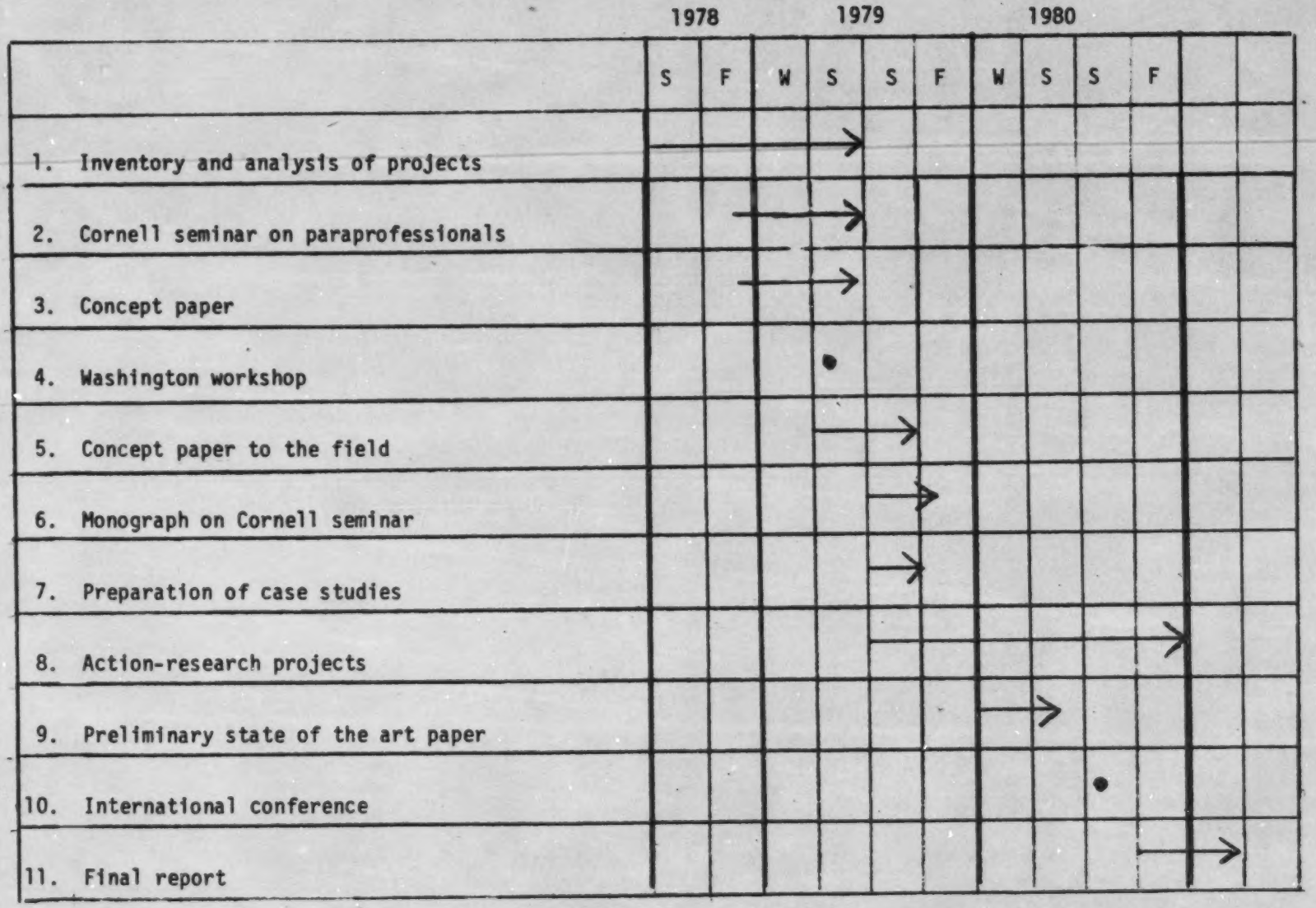
A final report, consisting of a revised (as necessary) state-of-the-art paper and a manual on participation and paraprofessionals for field use, will be prepared as a result of the international conference and the other activities in this and the first two program phases.

---

[57] Particularly timely and relevant might be a study of women's roles in community organization and use of paraprofessionals. In one of the CIS/RDC/PP seminars, Nancy Ruther indicated that communities which had health committees with substantial numbers of women members generally seemed to have stronger primary health programs (led by a promoter).

CIS/RDC/PP

SCHEDULE OF ACTIVITIES



The Cornell University CIS/RDC/PP Program team

The Program is directed by:

Dr. Milton Esman, John S. Knight Professor in International Studies, and Director of the Center for International Studies. Esman has had wide experience in development administration.

Dr. Royal D. Colle, Professor of Communication Arts at Cornell University. Colle has worked extensively on rural development projects for the Ford Foundation, USAID, the World Bank and the United Nations in Latin America and Asia.

The Program is also fortunate to be able to draw on other Cornell faculty members who have had substantial field experience in health, nutrition and agriculture programs in developing nations. Among them are: Dr. Michael Latham, Professor of Nutrition; Professor William F. Whyte, Professor of Industrial and Labor Relations; Dr. Lin Compton, Associate Professor of Education; Dr. Jean-Pierre Habicht, James Jamison Professor of Nutritional Sciences; Dr. Milton Barnett, Professor of Rural Sociology; and Dr. Kathleen Rhodes, Professor Emeritus in Community Service Education. In addition to these and other faculty members with a keen interest in rural development, the CIS/RDC/PP Program draws on the resources of special Cornell programs in International Population, International Agriculture, and International Nutrition.

This program is supported by the Rural Development Committee/USAID cooperative agreement for work on "rural development participation." The associated research components under this cooperative agreement contribute additional relevant input to this study on paraprofessionals.

APPENDIX I

Agriculture projects in CIS/RDC/PP collection with a paraprofessional component

Bangladesh:

1) Comilla
2) Savar Project
3) BRAC

Bolivia:

4) Bolivia Village Development

Colombia:

5) Small Farmer Development

Ethiopia:

6) WADU

Gambia:

7) Mixed Farming Centers
8) Mixed Vegetable Scheme

Ghana:

9) Rural Reconstruction Movement

Guatemala:

10) Chimaltenango
11) Basic Village Education

Haiti:

12) Bas Boen Project

Honduras:

13) Agricultural Education Program/ Accion Cultural Popular

India:

14) Farmer Training & Functional Literacy

Indonesia:

15) Rice Intensification Project

Kenya:

16) Tetu Agriculture Extension Experiment

Korea:

17) Office of Rural Development

Nepal:

18) Narayani Zone Irrigation Development Project

Niger:

19) 3-M Project

Nigeria:

20) National Accelerated Food Production Project

Pakistan:

21) Punjab Extension
22) Daudzai Project

Paraguay:

23) Small Farm Technology
24) Agricultural Credit Users Association

Peru:

25) Campesino Training Program

Philippines:

26) Farmer Scholar Program
27) People's School

Sudan:

28) Gezira Rural Television Project

Thailand:

29) Chao Phya Irrigation Project
30) Ag. Extension Outreach Project
31) Radio Farm Forum Pilot Project

Turkey:

32) Seyhan Irrigation Project

APPENDIX 2

Health projects in CIS/RDC/PP collection with a paraprofessional component

Bangladesh:

1) Savar Project

Botswana:

2) Monitors of family welfare

Canada:

3) Community Health Workers

Colombia:

4) Candelaria Simplified Health Services

El Salvador:

5) Centro San Lucas (proposal)

Ghana:

6) Danfa Project

Guatemala:

7) Chimaltenango Project
8) AFSC - pilot Project
9) DHD-INCAP
10) Huehuetenango Project
11) Health promotors & native midwives

Haiti:

12) Project Integre de sante de population

India:

13) Jamkhed
14) Kasa & Palghar Projects
15) Rural Health Scheme
16) Integrated Child Dev. Services

Indonesia:

17) Family Planning Field Worker
18) Community Health Care - Klampok
19) Village Nutrition Program

Iran:

20) Kavar
21) Marvdasht
22) Lorestan
23) West Azerbaijan

Jamaica:

24) Community Health Aide

Korea:

25) Maternity Aides (Kyungpook University)
26) Kojedo Project
27) Gang Wha Gun Health Post Project

Malaysia:

28) Traditional Birth Attendants in FP

Mali:

30) Rural Health Services Development

Mexico:

31) Project Piaxtla

Nicaragua:

32) Rural Health Services

Niger:

33) Village Health Team

Nigeria:

34) Rural Health Program in Gongola and Borno states

Pakistan:

35) Rural Health Guards
36) TBA Program

Papua New Guinea:

37) Aide post orderlies

PRC:

38) Peasant/doctors

HEALTH

Philippines:

38) TBA's in FP
39) Barrio Aide Personnel
40) Katiwala Project
41) PRRM - health program

Senegal:

42) Village dispensaries
43) Rural Health Services-
Sine Saloum

Sudan:

44) Village midwives
45) Primary Health Care Program

Tanzania:

46) Hanang Village Health Project

Thailand:

47) VHW Program - Khon Kaen U.
48) TBAs in FP
49) Lampang Project

USA:

50) Community Medical Aides

Venezuela:

51) Simplified Medicine

Vietnam:

52) Health Services, pre-1976

Zaire:

53) Vanga Hospital

Nepal:

54) Shanta Bawan Project

Bolivia:

55) Montero Pilot Project

APPENDIX 3

HEALTH PROJECTS

with PARAPROFESSIONAL COMPONENT

PROJECT	FUNCTIONS	SELECTION*	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION*	INCENTIVES
BANGLADESH							
1) Savar Project							
"paramedics" 31 in 1975	medical care MCH/FP communicable disease control training of traditional midwives nutrition education some paramedics receive special training to perform tubectomies others receive special training to do pathological procedures	external	"youth" prefer secondary education	none	apprentice 6-12 mos.	on-site	full-time, salary
"Village Level Worker" 60 in 1975	basic medical care MCH/FP environmental sanitation record vital statistics		village resident			on-site	part or full-time, salary
BOTSWANA							
2) "Monitors of Family Welfare" 180 in 1976	first aid nutrition education basic MCH environmental sanitation	community	mature female village resident know English	11 wks.		on-site, monthly	

* Selection: Generally, paraprofessionals are selected by the community or the funding (external) agency. Other means of selection are noted when such information is available.

*Supervision: Since the data is quite inadequate concerning supervision of the paraprofessional, this category merely denotes the place (on-site vs. regional headquarters) and frequency of the contact when given.

Community Role: Not included as a category since unemphasized in project descriptions.

HEALTH PROJECTS

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
BOLIVIA							
3) Rural Health Delivery System							
"promotors" initiated 1979 as expansion of Montero Pilot Project	basic medical care MCH activities nutrition education environmental sanitation communicable disease control	community health comm.	female/male village resident read, write Spanish	8 wks.		on-site, monthly by	salary paid community
COLOMBIA							
4) Candelaria							
"promotors"	basic health education collects statistics referral communicable disease control		single, female 18 yrs. of age village resident 5 yrs. schooling			on-site	volunteer, part-time
EL SALVADOR							
5) Centrol San Lucas (proposal)							
"promotors" midwives 800 in 200 villages	basic medical care environmental sanitation MCH/FP disease control	community	village resident	2 wks.	2 wks., biannual	on-site, bi-monthly mandated visits	volunteer
GUATEMALA							
6) Chimaltenango							
"health promotors" 70	basic health care MCH/FP environmental sanitation disease control education/information	community		1 day per	week	on-site, monthly	part-time charge for services

57

53

HEALTH PROJECTS

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
7) AFSC Pilot Project							
"primary care worker"	basic health care MCH/FP disease control						
8) DHD - INCAP							
"auxiliary nurses"	basic health care MCH/FP disease control	external	previous experience 6-12 yrs. education exogenous residence	yes	yes		full-time, salary
9) Huehuetenango							
"primary care worker"	basic health care MCH/FP disease control	community	village resident literate	yes	yes		part-time, volunteer
10) "Health Promotors & Native Midwives"	basic health care MCH/FP environmental sanitation disease control nutrition education	community health comm.		promotor = 1 mo. midwife + 2 wks.		"regular"	part-time, promotor = volunteer midwife = charge for service
HAITI							
11) Projet Integre de Sante et de Population							
"collaborators" 60 in 1977	basic health care immunizations data collection rehydration weighing infants	community nominates, agency selects	originate from region formal interview	yes	yes	on-site, weekly by community agent	part-time, $11/mo.

59

60

HEALTH PROJECTS

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
INDIA							
12) Jamkhed							
"village health worker" 20	basic health care MCH/FP environmental sanitation disease control collect vital statistics nutrition education	community	middle-age female village resident	no	3 sessions weekly	on-site	part-time, honorarium
13) Kasa Project							
"social workers" 28	basic health care MCH/FP nutrition education collect vital statistics	community nominates, agency selects	middle-age, M/F village resident 7 yrs. schooling desired	4 wks.	yes	on-site, scheduled visits	part-time, honorarium
14) Rural Health Scheme							
"Community Health Worker" 90,000 by 1978 600,000 envisioned	basic health care promotion, link with govt. health service	community		3 mos.		on-site	part-time, honorarium + supplies
INDONESIA							
15) "FP Field Worker" 7,000	information, distributes FP materials	external	female	3 wks.		on-site several times weekly	full-time, salary
16) Klampok Project							
"health cadres" 84 in 1975	basic health care MCH/FP environmental sanitation disease control nutrition education	community	whether the person is "right" to be entrusted with community role	2 hrs/wk for 16 wks	yes	on-site	part-time, volunteer

61

62

HEALTH PROJECTS

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
IRAN							
17) Kavar Project							
"Village Health Workers" 46	basic health care MCH/FP environmental sanitation disease control nutrition education	community leaders test/interview	village resident literate	6 mos.	yes	on-site weekly	full-time $75/mo.
18) Lorestan							
"village health worker" 35	basic health care MCH/FP environmental sanitation disease control						
19) West Azerbaijan							
"rural nurse/midwife"	basic health care MCH/FP environmental sanitation disease control		female village resident over 16 yrs age primary education	3 wks.	weekly for 2 yrs	on-site by male health worker	part-time
"male health worker"	supports rural nurse organization education/information	external	male former govt. auxiliary exogenous resident	3 wks.	weekly for 2 yrs		full-time
JAMAICA							
20) "Community Health Aides" 123	first aid nutrition education MCH/FP public health work	external though community leaders consulted interview/test	woman, aged 18-40 village resident previous experience	8 wks.	yes	on-site by professional	full-time, salary
KOREA							
21) Kyungpook Univ.							
"Maternity Aides" 73	register pregnant women pr/pst-natal info. promote FP	chief recommends agency selects	female village resident primary education	1 wk.	1 day biannual	on-site, weekly	part or full-time

HEALTH PROJECTS

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
22) Kojedo Project							
"village aides" 4	basic health care MCH/FP education/information referral	external	women village resident	apprentice	yes	on-site, quarterly basis	full-time, salary
"para-midwives" 6	assist in deliveries education/information referral keep records	community	women village resident	yes	yes	on-site, monthly visit by village aid	volunteer
23) Gang Wha Gun Health Post Project							
"family health workers"	MCH/FP TB control nutrition education monitor pregnancies	chief recommends agency selects	women village resident primary education leadership experience	3 wks	10 days/ yr.	on-site, weekly	part-time $14/mo.
MALAYSIA							
24) "Traditional Birth Attendants in FP" 150 in 1974	assist in deliveries promote/distribute FP materials	traditional midwives recruited	previous orientation with govt. health system	3 days	No	on-site, monthly	part-time, salary + bonuses
MALI							
25) Rural Health Services Development							
"village health worker"	basic health care MCH environmental sanitation training	community + project staff	village resident 2 person teams	(selection, training, remuneration procedures to be developed as project progresses)			

HEALTH PROJECTS

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
MEXICO							
26) Project Piaxtla							
"health Promotor"	basic health care hygiene & diet education vaccinations MCH/FP, midwifery occasional dental care	community	village resident	2 mos.	yes	on-site	part-time, charge for services
MOZAMBIQUE							
27) "Community Health Promotor"	basic health care health education village mobilization			several mos.			
NEPAL							
28) "FP Motivators"	provides FP services nutrition, child care education	Nepal Women's Organization	Women: married, middle-age, farmer	10 days			volunteer
NIGER							
29) Village Health Team							
"Village Health Worker" 780	basic health care disease control environmental sanitation	community	village resident M/F literate, respected	7-10 da	ad hoc	on-site, monthly	volunteer, in-kind services
"traditional birth attendant" 467	MCH/FP	traditional midwives	traditional service	10-15 da		on-site, monthly	full-time, charge for services
"Chairman & Treasurer of Village Pharmacy" @200	manage pharmacy	community		yes		on-site, monthly	part-time, in kind services

HEALTH PROJECTS

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
NIGERIA							
30) Lardin Gabas Rural Health Program "VHW" @124 in 1978	basic health care MCH environmental sanitation disease control nutrition education	community nominates, agency selects test & physical exam	1M/1F team village resident 1 of team must be literate	3 mos.	1 wk biannual + 2 days on site, biannually	on-site, bimonthly	part-time, salary paid by health committee
PAKISTAN							
31) Rural Health Guards							
"male health guards" 898 in 1975	basic health care disease control environmental sanitation health education	community	"intelligent" youth, 3+ yrs. secondary education	6-8 wks		on-site, "occasional"	part-time, volunteer
"female health guards"	MCH/FP birth assistance young child care	community	prefer midwife experience	6-8 wks		on-site, "occasional"	part-time, volunteer
32) TBA PROGRAM							
"LAdy Organizer" @32,000	promote/distribute FP materials	external	traditional midwives village resident	1 wk			full-time, salary + commission
PANAMA							
33) "Health Assistants"	community organizing health education MCH environmental sanitation dental care	external	village resident primary education respected	1 yr			

HEALTH PROJECTS

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
PAPUA NEW GUINEA							
34) "Aide Post Orderly"	basic health care MCH/FP environmental sanitation disease control	community	speak English primary education	1 yr.	up to 1 mo.	on-site, semi-annually	full-time, salary
PEOPLES REPUBLIC OF CHINA							
35) "barefoot doctor" "neighborhood health worker" "brigade midwife"	medical care MCH/FP environmental sanitation disease control health education	community	village resident literate, motivated dedicated	3-6 mos.	4 mos/ yr.	on-site, weekly	part-time, work points
PHILIPPINES							
36) "TBAs in FP" 482 in 1974	MCH/FP	external	active practice as TBA previous govt. training	5-8 da	2 da	on-site, monthly	part-time, stipend + own earnings
37) "Barrio Aide"	basic health care MCH/FP disease control record vital statistics referral	parents' clubs	barrio resident highest education available good character	6-10 mos	yes		part-time $30/mo
38) "Katiwala" paramedics	basic health care environmental sanitation disease control health education FP information		read & write willingness to serve usually female	once/wk for 6 mo	1 da/ 2 wks.	1 da/ 2 weeks	part-time, honorarium paid by coop

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
39) PRRM							
"auxiliary"	basic health care MCH/FP environmental sanitation disease control health education record vital statistics	community + external	barrio resident M/F primary education motivation acceptability	yes	yes	on-site, weekly and monthly by different staff	part-time, volunteer
SENEGAL							
40) "Village Dispenser"	basic health care	community	village resident acceptability	20-30 da			part-time, volunteer
41) SineSaloum 3 Person Health Team							
"first-aid VHW"	basic health care manage health 'hut' keep records information/referral	community	village resident literate	4 wks	yes	on-site, "regular"	part-time, community pays wage
"sanitarian"	environmental sanitation	community	village resident 18-28 yrs. literate	12 days	yes	o--site, "regular"	"
"midwife"	MCH/FP	community	female village resident literate	12 days	yes	on-site, regular	"
SUDAN							
42) "Village Midwives" 2,152 in 1970	MCH/FP	community + external	village resident 18-25 yr. female prefer married, divorcee, widow acceptability	9 mos.		regional	full-time, stipend + charge for services
43) National Health Program							
"VHW" begun in 1977 so incomplete information		community	"rigorous" selection				paid by community

73

74

HEALTH PROJECTS

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
TANZANIA							
44) "Village Medical Helper"	(incomplete information)	community		3-6 mos			part-time
45) Hanang District Village Health Program							
"Health trainees"	basic health care MCH environmental sanitation	community	"young people" village residents 1M & 1 F	6+ mos.	classroom & field work	on-site	
"Village Health Leaders"	vaccinations, disease control record statistics						
THAILAND							
46) Khon Kaen Univ.							
"VHW"	basic health care MCH/FP environmental sanitation		village resident	2 wks	yes	on-site, monthly	part-time, volunteer
47) "TBAs in FP"	MCH/FP	external	practicing TBA village resident	5 days	several days, semi-annually		part-time, incentive salary
48) Lampang Project							
"health post volunteer"	basic health care MCH/FP disease control monitor 'communicators' support 'child nutrition	community committees center'		2 wks		on-site	part-time, volunteer
"communicator"	information/referral "initiate flow of patients into network"	"community sociogram study + village committee"		"brief"		on-site by health post volunteer	part-time, volunteer
"indigenous midwives"							

HEALTH PROJECTS

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
VENEZUELA 49) Simplified Medecine "auxiliary" 836 in 1974	basic health care disease control health education statistics/census	community	M/F, 18-40 yrs village resident 4 yrs schooling literate/numerate acceptability	4 mos.	yes	on-site "regular"	full-time, salary
VIET NAM 50) Health SErvices, pre 1976 "cooperative health worker"	basic health care MCH/FP environmental sanitation disease control health education	community		9-12 mo	6 mo	on-site	part-time, work points
ZAIRE 51) Vanga Hospital "VHW" 10-15 in 1972	health education community promotion collect statistics referral	external	male, 25-35 yrs. village resident 8 yrs. schooling	less than 1 mo.	yes	on-site monthly	
UPPER VOLTA 52) "Nutrition Auxiliaries"	child nutrition/ education	community	prefer women who have been to recuperation center with malnourished child	several days		"regular"	volunteer

77

78

AGRICULTURAL PROJECTS

with PARAPROFESSIONAL COMPONENT

PROJECT	FUNCTIONS	SELECTION*	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION*	INCENTIVES
BANGLADESH							
1) Comilla							
"Model Farmer"	extension education practice techniques on own land liaison to services & information	community	reputable, local farmer		weekly	regional	part-time, unpaid
"Manager"	hold weekly village meetings keep records prepare production plans arrange loans liaison between thana center and farmers	community	literate, local farmer		weekly	regional	part-time, incentive salary
2) Savar Project							
"Para-agros"	demonstrations/extension credit	(Incomplete data)					
3) BRAC	local group leaders inc. cooperative accountants instructors, group organizers	(Incomplete data)					

*Selection: Generally, paraprofessionals are selected by the community or the funding (external) agency. Other means of selection are noted when such information is available.

*Supervision: Since the data is quite inadequate concerning supervision of the paraprofessional, this category merely denotes the place (on-site vs. regional headquarters) and frequency of the contact when given.

Community Role: Not included as a category since unemphasized in project descriptions.

AGRICULTURAL PROJECTS

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
BOLIVIA							
4) Village Development							
"Promotors"	CD generalists education/information "rural change agent"	external	local, literate formal selection		18 days/ yr.	on-site	full-time, $120/mo.
COLOMBIA							
5) Small Farmer Development							
"Diffusion Agent"	promote recommended technology provide evaluation data keep records	external	reputable, local farmer			on-site	part-time, salary
ETHIOPIA							
6) WADU							
"demonstrator"	information/education training/skills	farmer's committee	local, reputable farmer; 9th grade education	field training		on-site	
GAMBIA							
7) Mixed Farming Centers							
"trained" farmers	extension education information/skills	self-selection	young men with oxen provided by family or village	11 wks.	6 days/ yr.	regional	part-time, prestige
8) Mixed Vegetable Scheme							
"demonstrator"	supervises onion growing information/skills	external		yes		regional	
GHANA							
9) Rural Reconstruction Movement							
"farmer-scholars"	extension education	(Incomplete data)					

AGRICULTURAL PROJECTS

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
GUATEMALA							
10) Chimaltenango							
"extensionists"	extension education village catalyst	community		yes			
11) Basic Village Education							
"monitor"	organize, nurture & lead radio forums work with individual farmers & small groups feedback information	community	reputable farmer	1 mo.	1/2 da/wk 2 days/mo	on-site	full-time, salary
HAITI							
12) Bas Boen Project							
"monitor"	crop supervision keeps production records distributes inputs						
HONDURAS							
13) Ag. Education Program							
"Promotors"	extension education	Peasant League	semi-literate League member	3 wk	monthly meeting	on-site	part-time
"Instructores Agricoles"	supervises 'promotors' keeps records information/education	Peasant League	previously was a 'promotor'	3 wk	yes	regional	full-time, salary
INDIA							
14) Farmer Training & Functional Literacy							
"Convener"	leads discussion group distributes inputs feedback information		local leader	2 wk		regional	part-time, prestige, given radi & supplies

AGRICULTURAL PROJECTS

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
INDONESIA							
15) Rice Intensification "Pamong Tain Desa"	extension education distributes inputs arranges credit	community	progressive farmer	yes	2 wk/yr	regional	part-time, volunteer
KENYA							
16) Tetu Ag. Extension "motivator"	acts a motivators of less progressive farmers	external	progressive farmer	3 days			
KOREA							
17) O.R.D. "Volunteer Leaders"	assist extension agent in development activities promote Farm Improvement, 4-H Clubs, Home Improvement Clubs assist in crop disease control conduct short trainings			yes			
NEPAL							
18) Narayani Zone Irrigation Development Project "Panchayat Level Ag. Assistant"	extension education visits contact farmers on fixed schedule assists in gettin ag inputs may conduct simple field demonstrations	external	young to middle aged farmers at least primary school education experience in practical ag. smartness & personal influence	3 wks	1 da/ fortnight	regional	full-time, salary

AGRICULTURAL PROJECTS

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
NIGER							
19) 3-M Project							
"Demonstrator"	practice recommended techniques & inform others	village assembly	local farmer	2 days/ yr	2 days/ yr.	regional	part-time, free fertilizer
"Auxiliaries"	supervise peasant coop information/education conduct simple demonstrations	cooperative group	local farmer	5 days/ yr.	5 days/ yr.	regional	$20/mo. free fertilizer
"Young Farmers"	information/education hire out equipment	cooperative group	progressive farmer	7 mo.		regional	free tools loan voucher
"Animatrices" Women	information/education to village women	community	respected	3-5 days	3-5 days/ yr.	regional	volunteer
NIGERIA							
20) NAFPP							
"Ag. Assistant"	supervise farmers' use of mini-kits select farmer-cooperators for demonstration trials	external	local farmer?	6 wks.	special courses	regional	salary?
PAKISTAN							
21) Punjab Extension							
"Contact Farmers"	convey extension message to 10 other farmers	(TRAINING AND VISIT SYSTEM)					
22) Daudzai Project							
"Model Farmer"	practice recommended techniques inform others at weekly meetings	village organization	local farmer permanent resident		fortnightly on-site trainings		

AGRICULTURAL PROJECTS

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
"Managers"	village organizing in area community development promotion cooperative managers	village organization			fortnightly trainings		
PARAGUAY							
23) Small Farm Technology							
"Paratechnician"	farm management record keeping/feedback	external	small farmer			on-site	small salary
24) Ag. Credit Users							
"Paratechnician"	supervises credit association education/information		local farmer			regional	$96/mo.
PERU							
25) Campesino Training							
"Paratechnician"	management function in cooperatives		cooperative member	3-7 day cycles with 3 mo. field-work			salary
PHILIPPINES							
26) People's School							
"Scholar"	apply and share new knowledge with villagers select & train associates instrumental in CD promotion	Rural Reconstruction Committee	local resident full-time farmer read and write honest, industrious	specialized short courses		on-site	volunteer

AGRICULTURAL PROJECTS

PROJECT	FUNCTIONS	SELECTION	QUALIFICATIONS	TRAINING Pre	TRAINING In	SUPERVISION	INCENTIVES
SUDAN							
27) Gezira Rural Television							
"Monitor"	promote & organize TV club serve as discussion leader of TV club liaison between TV club project collect data operate & maintain equipment	community	literate, local resident	1 wk			part-time, volunteer
THAILAND							
28) Chao Phya Irrigation							
"farmer foreman"	establish demonstration plots visit farmers on fixed schedule keep demonstration plot records	external	enterprising, progressive farmer	2 wks.	1 da/ fortnight	regional	part-time, small salary
29) Ag. Extension Outreach							
"model farmer"	contact farmer for Tambon agent relay ino to 10 others	(TRAINING AND VISIT SYSTEM)		No	No	on-site	
30) Radio Farm Forum Pilot Project							
"Forum Leader"	lead radio discussion group feedback information	radio forum group		yes		regional	part-time, prestige
TURKEY							
31) Seyhan Irrigation							
"Farmer Foreman"	extension education			yes	yes		

Appendix 4

Country _____ Title _____ Number _____

RDC Participation Project-Paraprofessionals

Variables		Alternatives
I. PROJECT		
1. Project sponsor (a) _____		a. international organization b. national c. regional d. local e. other
	(b)	a. government organization b. quasi-government c. non-government/private d. mixed e. other
2. Project funding (a)		
Source: _____ _____		a. international organization b. national c. regional d. local e. other
	(b)	a. government organization b. quasi-government c. non-government/private d. mixed e. other
3. Project funding period		a. short fixed period (includes pilot and research projects) b. long/indefinite period c. regular budget item
4. Project initiated		Date: _____
5. Kind of project		a. health/nutrition b. agriculture c. multi-sectoral d. other

6. Health/Nutrition
   a. medical care
   b. MCH/FP
   c. environmental sanitation
   d. communicable disease control
   e. education
   f. training
   g. other

7. Agriculture
   a. cultivation--multi crop
   b. cultivation--single crop
   c. animal husbandry
   d. irrigation
   e. credit systems
   f. other

8. Multi-sectoral — Describe: _____

9. How many categories of PP are included — List: a. _____ b. _____ c. _____

   (N.B. if more than one, then do Section II and III for each category.)

10. How many PP of each category are employed — List: a. _____ b. _____ c. _____

Client focus

11. Age/Sex
    a. general
    b. men
    c. women
    d. children
    e. other

12. Economic
    a. lower income
    b. middle income
    c. general

13. Ethnicity
    a. specified, list _____
    b. not specified

14. How large is the target population (Note basis for calculation.) _____

15. Geographic focus
    a. rural only
    b. rural and urban
    c. urban only

16. Cultural context
   a. caste/class/ethnicity _____
   b. linguistic group _____
   c. religious group _____
   d. faction _____

II. SERVICES

17. Functions

Health/Nutrition
   a. medical care
   b. MCH/FP
   c. environmental sanitation
   d. communicable disease control
   f. training
   g. other

Agriculture
   a. cultivation
   b. animal husbandry
   c. irrigation
   d. credit systems
   e. general
   f. other

18. Content of Services (multiple alternatives may be listed [MA])
   a. information/education
   b. goods/materials
   c. treatment
   d. training/skills
   e. local organizing
   f. assistance in gaining access to resources

19. Which clients receive services (MA)
   a. determined by PP
   b. determined by supervisor
   c. determined by project
   d. determined by client self-selection
   e. determined by community
   f. determined by other

20. Charge for services
   a. no charges to client, paid by project
   b. no charge to client, paid by community or voluntary contributions
   c. some services free; others for charge
   d. fixed charge for all services
   e. other

21. How services are rendered
   a. individual
   b. group
   c. household
   d. sector facilities

22. Frequency of contact with client (MA)
   a. determined by PP
   b. determined by supervisor
   c. determined by client self-selection
   d. determined by community
   e. ad hoc
   f. weekly
   g. monthly
   h. quarterly
   i. semi-annually
   j. annually
   k. other

III. PARAPROFESSIONALS (PP)

23. Paraprofessional personal data
   a. age _____
   b. sex _____
   c. educational level _____
   d. marital status _____
   e. caste/class/ethnicity _____

Recruitment of PP

24. Source
   a. indigenous (local community)
   b. exogenous
   c. mixed

25. Methods
   a. open selection
   b. community selection
   c. system selection (cooptation/upgrading)

26. Qualifications (MA)
   a. age _____
   b. residence _____
   c. sex _____
   d. education _____
   e. experience _____
   f. formal test _____
   g. personality/interview
   h. resources _____
   i. other

Pre-Service Training of PP

27. Length
   a. none
   b. up to 1 mo.
   c. more than 1 mo. up to 6 mo.
   d. more than 6 mo. up to 12 mo.
   e. more than 12 mo.

28. Location
   a. national
   b. regional
   c. local
   d. OJT

29. Type
   a. individual
   b. group

In-service training of PP

30. Length
   a. none
   b. up to 1 mo.
   c. more than 1 mo. up to 6 mo.
   d. more than 6 mo. up to 12 mo.
   e. more than 12 mo.

31. Location
   a. national
   b. regional
   c. local
   d. OJT

32. Type
   a. individual
   b. group

33. Frequency
   a. ad hoc
   b. monthly
   c. quarterly
   d. semi-annually
   e. annually
   f. other

34. Compensation of PP
   a. volunteer (work for no pay but may be given meals or repaid for expenses at work)
   b. in kind services/materials
   c. in kind training/education
   d. in kind equipment/facilities
   e. fixed salary
   f. incentive (piece rate) salary
   g. charges for service
   h. other: _____

35. Career possibilities of PP
   a. terminal
   b. career track (possible promotion)
   c. job mobility

Relation of PP to Supervisor (administrator and/or professional)

36. Level of supervisor (MA)
   a. national
   b. regional
   c. local
   d. other
   e. sector
   f. non-sector
   g. administrator
   h. professional

37. Frequency of contact (MA)
- a. ad hoc
- b. weekly
- c. monthly
- d. quarterly
- e. semi-annually
- f. annually
- g. other
- h. mandated
- i. not mandated

38. Kind of contact (MA)
- a. oral individual
- b. oral group/staff meetings
- c. written/informal
- d. written/formal
- e. performance supervision
- f. other

39. Ratio of PP:Supervisor _____

Responsibilities of PP

40. Work schedule
- a. full time
- b. part time

41. Independence of services
- a. does no services independently
- b. does some services independently
- c. does most services independently

42. Administration--assists in
- a. policy
- b. planning
- c. management

43. Personnel
- a. has formal supervision responsibility over other personnel
- b. has no supervision responsibilities

44. Technical support system of PP
- a. information
- b. technical manpower backup
- c. supplies/materials
- d. other

45. Distance of paraprofessional from nearest formal support unit in sector

Specify: miles _____
hours _____

46. Length of contract
   a. less than 6 mo.
   b. 6 mo. to 12 mo.
   c. 12 mo. to 18 mo.
   d. more than 18 mo.
   e. indefinite

47. Rate of attrition — Specify:

48. Most frequent reasons for termination
   a. promotion within system
   b. mobility outside system
   c. program changes
   d. dissatisfaction with working arrangements
   e. other

49. Performance evaluation of PP
   a. self evaluation
   b. supervisor evaluation
   c. client evaluation
   d. other

Relation of PP to other organizations

50. Delivery of services
   a. PP has sole responsibility for service in program area
   b. PP shares responsibility

51. Links
   a. formal
   b. informal
   c. none

52. Kinds of other organizations/groups
   a. local (only within area served)
   b. non-local (extends beyond area served)
   c. single purpose
   d. multi-purpose
   e. general purpose
   f. governmental
   g. non-governmental/private
   h. voluntary

53. Purpose of linkage — Specify:

54. Problems in linkage — Specify:

IV. ASSESSMENT AND EVALUATION MEASURES

55. Cost of Project

(NB: enter whatever measure is possible, more than one if possible)

a. total cost _____
(for how many years?)_____
b. cost per year_____
(at full-scale operation--if not, specify)_____

(NB: give breakdowns where available on cost)

a. facilities and equipment ___
b. recruitment _____
c. training _____
d. supervision _____
e. remuneration _____
f. supplies _____
g. other _____

56. Unit Costs

a. per visit
b. per client
c. per capita
d. other
e. no data

57. Evidence of cost/benefit

Summarize:

58. Evidence of cost-effectiveness

Summarize:

V. ADDITIONAL DATA

Appendix 5

State of the Literature

PARAPROFESSIONALS IN HEALTH AND AGRICULTURE

The CIS/RDC/PP literature review began with an analysis of the rationale and general issues involved in using paraprofessionals for facilitating the access to services of the rural poor, both in the U.S. and the developing countries. Relevant background data was also compiled from the two interest areas of health and agriculture. The primary effort, however, consisted of collecting and analyzing descriptions/documentations of projects utilizing front-line development workers in health and agricultural services. While the resulting files by no way represent all the programs using paraprofessionals, they do represent many of those programs which have been documented and, thus, serve as a basis for studying the paraprofessional experience.

The literature on health paraprofessionals is much more complete and accessible than that dealing with agricultural paraprofessionals. The abundance of the data on rural health delivery systems is exemplified by the three volume IDRC annotated bibliography, Low-Cost Rural Health Care and Health Manpower Training (1975, 1976, 1977). The health literature is replete with outlines, recommendations, and commitments to the concept of primary health care and community participation. The philosophy and need/justification for low level health auxiliaries has been well documented. While the literature reveals generalized plans about what could and should be done, evidence of what can and is being done is still in the formative stages.

The agriculture literature, on the other hand, is much less well developed and accessible vis-a-vis the roles and utilization of paraprofessional staff. This study is, to our knowledge, the first effort to compile internationally comparable data on front-line agricultural workers. Since the library computer searches yielded poor results, our effort turned to direct correspondence with institutions and people throughout the U.S. and field staffs in the Third World, both expatriate and nationals. Contact with one person would lead to another source that might or might not contribute to information on paraprofessionals and/or project identification. The

feedback from the field has been very favorable with numerous acknowledgements of the need for research on paraprofessionals in agriculture and requests for our completed report.

The following discussion presents a concise overview of the literature available on health and agricultural paraprofessionals. Each sector will be handled separately. The compiled project documents have been divided into three major categories -- surveys, individual descriptive reports, controlled intervention studies -- according to the way in which the paraprofessional component is addressed. It is our intention to give the reader a flavor for the present state of the literature, vis-a-vis the utilization of front-line development workers in health and agriculture.

HEALTH

An early effort to develop the general issues in the use of lower level health personnel is found in Gish (1971). Rifkin (1977) differentiates between community health and community medicine, calling for the mobilization of community resources through village health workers to bridge the cap between needs and services. This document includes case studies from Indonesia, Malaysia, Philippines, India, and Nepal and outlines issues for further investigation. Newell (1975) edited a collection of articles written by practitioners describing innovative and participatory health delivery strategies in the LDCs with an excellent review of issues involved. Drayton (1973) discusses the increasing reliance on "new categories" of health auxiliaries with reference to innovative programs in Guyana, Jamaica, Venezuela, Costa Rica, and Guatemala. He concludes with performance criteria upon which the auxiliary could be classified. A matrix of obstacles to successful programs, causes, and possible consequences is found in WHO's Brazzaville report (1971). This document then lists the potential solutions in the areas of administration and finance, education and training, and socio-cultural factors. WHO releases its first formal policy statement of the Primary Health Care concept, "WHO/UNICEF Joint Study on Alternative Approaches to Meeting Basic Health Needs of Populations in Developing Countries" (December 1974). An updated policy statement is found in WHO, Primary Health Care (July 1978).

Considerable attention has been paid to the need for categorizing the new levels of health personnel according to function and task. Fendall

(1972) presents a conceptual framework for classifying health personnel. Programs using auxiliaries in a wide variety of service functions are discussed with the distinction made between single and multi-purpose workers and a review of selection, training and utilization procedures. Smith (1978), PAHO (1975), and WHO (1977) present models of the auxiliary's functional responsibilities. Basic planning and networking models for village level health projects have been described by Smith (1978).

In order to make the broad arena of health services manageable, specific categories have been developed according to functional services. The Department of International Health, John Hopkins University (1976), has formulated a methodology for "functional analysis." A more detailed framework is presented by the Pan American Health Organization (1975) which describes a system for assessing tasks and activities, resources and operations of local health delivery programs in rural areas.

Given the existing classification system of health personnel and Cornell's interest in local participation, the Cornell research team focused its attention on the Village Health Worker as the front-line paraprofessional in the delivery of health services to the rural poor. Within this context a careful search of the literature was conducted resulting in a compilation of materials from over 50 projects in 35 countries.

Categories of Reports

The material written on village level health projects falls into three major categories: surveys, individual descriptive reports, and "controlled" intervention studies.

1. Surveys: Two major survey reports deal with the delivery of primary health care. The American Public Health Association (1977) has documented "innovative" practices in the provision of low-cost health systems in a mail survey of 180 health projects. Baumslag (1978) has reviewed proposals and preliminary reports from 45 AID-financed village health worker projects.

2. Individual Descriptive Reports: The vast majority of the literature consists of specific project descriptions. These are generally small-scale service projects under the supervision of a church group, other small private voluntary agencies, or a medical doctor. The documents are largely subjective descriptions of the projects' activities and procedures. Examples include: Newell (1975), Rifkin (1977), Hasan (1976), Bayoumi (1976), Church of the Brethren Mission, Nigeria (1977), Berman (1979), Behrhorst (1974).

3. Controlled Intervention Studies: This category needs to be broken down into two sub-categories: 'Pilot Studies' which attempt to test the effectiveness and feasibility of using village health workers in the delivery of basic medical care and 'Research studies' which focus on the effectiveness of the health interventions but sometimes use village health workers.

Pilot Studies: The primary objective of these projects is to test a low-cost health care delivery system using village health workers. Consequently, these reports may address specifically the selection, training, and management of the front-line paraprofessionals. Evaluations have been limited and generally review coverage, utilization and some effectiveness indicators. The Kavar Village Health Worker Project in Iran is a prime example of this type of activity. Other examples include the Candelaria Project in Colombia, the Village Health Worker Program (Lampang Project) in Thailand, early efforts with Community Aides in Jamaica and the Danfa Project in Ghana.

Research Studies: A number of experimental projects designed to study the technical effectiveness of interventions have made use of village health workers to provide specific services. These projects focus more on the intervention than on the auxiliary worker, per se. However, such projects contribute useful additional information about the technical and management aspects of using village health workers. Examples include efforts in Narangwal, India (Kielman and McCord, 1978), and research in INCAP in Guatemala (see Habicht, Working Group on Medical Care).

Technical Literature

Several projects have developed training materials which have been reproduced for adaptation internationally. These include "how to do it" manuals (Werner, 1977 and WHO, 1977), training curricula (Smith, 1978 and Rohde, 1977) and audio visual aids (Teaching Aids at Low Cost, London). Educational materials and other supplies needed for health programs emphasizing auxiliary personnel are described in PAHO (1975), Rohde (1977), and WHO (1977). Habicht (1979) presents a framework for supervision procedures within the primary health care system.

While all the literature mentions the need for monitoring systems and evaluation measures, little attention to date has been paid to this problem. Evaluation is continually applauded in theory but rarely applied rigorously.

Of the documented projects in the CIS/RDC/PP files, only four have reported formal evaluations.

Another area that, to date, has received little attention is the community participation aspect of the primary health care concept. While the justification for such participation is well documented, what it entails and how it may be attained does not seem to be well documented. It appears that the majority of the work in the health field has been done by health professionals who are interested primarily in the delivery of medical services. Little work has been done on the community participation aspects and the secondary benfits to the community.

AGRICULTURE

Unlike the health literature, there is no aggregated information on front-line development workers in the agricultural sector. The literature makes generalizations and recommendations for incorporating village workers as links between the system and the farmers, but there is no conceptual framework on which to build. One must look to the specific project documentations for a description of the issues involved in using paraprofessionals in extending agricultural services. Even then, however, the focus is less on the front-line worker and more on the project goals and organization. And yet, the Cornell search identified over 30 projects using this type of personnel.

A confusion in terminology is apparent throughout the literature. The terms "Model Farmer," "Master Farmer," and "Progressive Farmer" have generally been used to refer to farmers selected, either directly or indirectly, by the administrative system who are to demonstrate innovations on their land and diffuse information to others. WADU/Ethiopia rejects the use of "model farmers" since only a few farmers receive the benefits of the extension service. The Training and Visit System in Thailand, however, employs the term "model farmer" to refer to those contact farmers who are to systematically spread information to 10 other farmers. Thus, the term "demonstrator" used in the WADU Project appears to imply the same concept as the Thailand's "model farmer." Shades of differences are recognized throughout the project descriptions in selection and utilization of these paraprofessionals.

The CIS/RDC/PP search attempted to compile information concerning front-line workers in all areas of agricultural development including extension,

irrigation, credit, animal husbandry, cooperatives, and crop production. Our results, however, show minimal attention to paraprofessionals in any area except agricultural extension and even here the data is far from complete.

Categories of Reports:

1. Surveys: The Cornell literature search found no survey investigation of programs using paraprofessional workers in the field of agriculture.

2. Individual Descriptive Reports: The vast majority of our information has been distilled from project reports concerned with small farmer development. These projects have generally been initiated by a national interest group and receive external assistance. These individual studies may be grouped together under an international comparative study (i.e. Morss, et al., 1976; Lele, 1975; Coombs and Ahmed, 1974; Saunders, 1977; Axinn and Thorat, 1972; et cetera) or come in the form of specific case studies (i.e. Ahmed, 1972, 1977; Khan, 1974; Raper, 1970; Gebregziabher, 1975; Hatch, 1978; et cetera). A few purely descriptive reports have been located (Behrhorst, 1975; Ragheb, 1975; Khan, 1974; Orda, 1973). Regardless of the critical or comprehensive nature of these reports, however, the focus is generally on the program's activities and procedures and not on the paraprofessional component. One major exception is the well documented Farmer Scholar Program of the International Institute of Rural Reconstruction in the Philippines.

3. Controlled Intervention Studies: There are several experimental intervention programs designed to assess the constraints on small farmer income and production in order to develop an effective delivery system. These programs are generally designed and supervised by a large foreign assistance agency.

Two project descriptions should be pointed out since their primary objective is on the use of paraprofessionals in promoting small farmer development. These are the Agricultural Education Program in Honduras and the Bolivia Village Development Project. The tasks, selection procedures, training, supervision of the paraprofessional are addressed specifically.

Most of these programs, however, are designed to test the effectiveness of various intervention strategies. While paraprofessionals are used in the process, their recognition at this point is largely incidental. The Guatemalan Basic Village Education Project is a unique example given its highly controlled

experimental design and independent evaluation component. Other examples include the Small Farmer Development Project in Colombia and the Small Farmer Technology Project in Paraguay.

An intervention "model" that is being initiated in a number of countries in Southeast Asia is the World Bank's Training and Visit System. More complete information regarding the "contact farmer" would be especially useful in the CIS/RDC/PP study. As yet, however, we have been unable to uncover any concrete data or evaluation studies though an evaluation methodology was developed (Cernea and Tepping, 1977).

Technical Literature

Considering the present state of research on paraprofessionals in agricultural development, it is not surprising that no technical material has been developed concerning training, supervision, task potentials, and functional responsibilities of the front-line agricultural worker. One must look to the specific project materials, to the health literature, or to the larger subject areas such as farmer education, extension techniques, and nonformal education methodology and experiences.

Evaluations have been limited and usually review quantitative indicators of the program's effectiveness in general. Only four projects present efforts to assess the contributions of the paraprofessional specifically, and these are only preliminary, incomplete analyses.

CONCLUSIONS

Even given this brief overview of the present state of the literature, one can immediately recognize the different stages in development of the research on health and agricultural paraprofessionals. While the literature in the health sector is fairly comprehensive and ongoing research will add new empirical data, we are just beginning to formulate a concept of what the agricultural paraprofessional can and is doing. Specific issues need to be addressed in the delivery of primary health care, principally in the area of community participation. Research on agricultural paraprofessionals, however, is needed in all areas.

APPENDIX 6

SELECTED BIBLIOGRAPHY*

I. HEALTH

Ahmed, Manzoor. "The Savar Project: meeting the rural health crisis in Bangladesh." International Council for Education Development. "A project to help practitioners help the rural poor." Case Study #1, Essex, Conn., 1977.

Akhtar, Shahid. Health Care in the Peoples Republic of China: a bibliography w/abstracts. International Development Research Center, Ottawa, 1974,

American Friends Service Committee, Philadelphia. "Pilot project in rural health & rural economy: Guatemala." Phil., AFSC, May 1973, mimeo.

American Public Health Association. The State of the Art of Delivering Low Cost Health Services in Developing Countries. A Summary Study of 180 Health Projects. American Public Health Association, Washington, Jan. 1977.

"A New Approach to Rural Basic Health Services in Gangola & Borno States." Church of the Brethen Mission, Nigeria, 1977, mimeo.

Annel, Mary V. "Rural Health Promotors Program, Fifteen Years' Experience in Community Heatlh in Huehuetenango," Guatemala, paper presented at the Second International Congress of the World Federation of Public Health Associations, Nova Scotia, 1978.

Arole, R.S. "Comprehensive rural health project, Jamkhed: leprosy control & treatment integrated with comprehensive rural health programme." Apr. 1973, mimeo.

_____. "Community participates in a community health programme." Journal of the Christian Medical Association of India (Mysore) 48:4 April 1973.

*This Bibliography does not include the substantial number of documents dealing with the concept of participation except those documents dealing specifically with paraprofessionals in health or agriculture. However, the key to this literature can be found in two references in the Bibliography: Cohen and Uphoff, and Cohen et. al.

Arole, M. "Comprehensive rural helath project, Jamkhed: the village level worker." Jan., 1973, mimeo.

Arole, R.S. and M. Arole. "Comprehensive Rural Health Project, Jamkhed. India." Christian Medical Commission Annual Meeting, Geneva, 1972.

_____. "Comprehensive Rural Health Project, Jamkhed." Journal of the Christian Medical Association of India (Mysore) 47:4 April 1972.

Ashitey, G.A., F.K. Warapa, and D.W. Belcher "Danfa rural health center: its patients and services 1970-71." Ghana Medical Journal (Accra) 11:3 Sept. 1972.

Bainbridge, J. and Sapirie, S. Health Project Management. WHO offset publication #12 Geneva, 1974.

Bangladesh Academy for Rural Development, Comilla. "Two year's plan for pilot public health programme in Shalbanpu village in Comilla Kotwali Thana." mimeo.

Barton, Edwin. Physician to the Mayas. Philadelphia: Fortress Press, 1970.

Baumslag, Naomi, et. al. A.I.D. Integrated Low-Cost Delivery System Projects: Health, Nutrition, Family Planning. Vol. I Aug. 1978, Vol. II (analysis) Act 1978. U.S. Dept. of H.E.W., Office of International Health, Rockville, Md.

Bayoumi, Ahmed. "The Training & Activitiy of Village Midwives in the Sudan." Tropical Doctor (London) 6:3 July 1976.

Behrhorst, Carroll. "Thoughts on community services in low-production physically deprived nations." Chimaltenango, Guatemala, 1973, mimeo.

_____. "Guatemala." Christian Medical Commission, Annual Meeting, Geneva, 1973.

_____. "The Chimaltenango Development Project, Guatemala." Journal of Tropical Pediatrics & Environmental Child Health 20:6, Dec. 1974.

Bell, C.O. (ed.) Diseases and Health Services of Papua New Guinea. Port Moresby: Department of Public Health, 1973.

Berman, Peter. "Village Health Workers in Java: initial projects & their implications for major programs." Cornell University, 1979, mimeo.

Castano, A.A. and V.G. deMartinez "Simplified system of health services in Candelaria." Candelaria, Columbia, Universidad del Valle, Dept. of PH & Prev. Med., Health Division, mimeo.

Chowdury, S. and Chowdury, Z. "Tubectomy by para-professional surgeons in rural Bangladesh." Lancet, London 2 (7935) 27 Sept. 1975.

Chowdury, Zafrullah. "The Mother and Child in Bangladesh." Assignment Children ee(1), January-March 1976.

_____. "The Parmedics of Savar: An Experiment in Community Health in Bangladesh." Development Dialogue, 1, 1978.

Christian Medical Commission. "Evaluation of health care systems." Annual Meeting (CMC) Geneva, 1971.

Colle, Royal D. "Strengthening the Role of the Paraprofessional Through Innovative Training." paper prepared for the Social Development Center, United Nations, 1978.

_____. "Developing Health Education Programs in Rural Areas." Paper presented at the Second International Congress of the World Federation of Public Health Associations, Halifax, Nova Scotia, 1978.

Diesfeld, Hans Jochen and Erich Kroger. Community Health & Health Motivation in Southeast Asia. Proceedings of an International Seminar organized by the German Foundation for International Development and the Institute of Tropical Hygiene and Public Health. South Asia Institute, University of Heidelberg, 22 October to 10 November 1973, Berlin Wiesbaden: Franz Steiner Verlag, 1974.

Djukanovic, V. and E.P. Mach. Alternative Approaches to Meeting Basic Health Needs in Developing Countries. A Joint UNICEF/WHO Study. Geneva: WHO, 1975.

Dorozynski, Alexander. Doctors and Healers. Ottawa: IDRC, 1975.

Drayton, H. "New types of health personnel for rural areas: some experiences in the Carribean & Venezuala." in "Utilizing New Personnel for Extending Health Care Services," PAHO, Washington DC, 1973.

Dwivadi, K.N. and Rai, P.H. "Training of traditional birth attendants: a broader approach is needed." International Journal of Health Education, 14:1, Geneva, 1970.

Haliman, Arif. "Rural Health Development in Mosaic Picture." Paper presented at the Primary Health Care Seminar, Jakarta, Indonesia, 19-21 April, 1976.

Ebrahim, G. G. "Model of integrated community health care: community health care in a rural area." Tropical & Geographical Medicine (Haarlem) 28, 1976.

Eneboe, P. "Village medical aides: Alaska's unsung, unlicensed, and unprotected physicians." Alaska Medicine (Anchorage) 11, December 1969.

Ennever, O., M.C. Marsh, and K.L. Standard. "Community Health Aide Training Programme." West India Medical Journal (Kingston) 18, 1969.

Fendall, N.R.E. Auxiliaries in Health Care: Programs in Developing Countries. Baltimore: John Hopkins University Press, 1972.

Garcia, Jose S. "The Auxiliary Health Worker in Community Health." Tropical Doctor, 8, April 1978.

Gish, Oscar. Health Manpower and the Medical Auxiliary: some notes and an annotated bibliography; London: Intermediate Technology Dev. Group, 1971.

Habicht, Jean-Pierre. "Assurance of Quality in Provision of Medical Care by Non-professionals." Social Science & Medicine in press, 1979.

_____ and Working Group on Rural Medical Care. "Delivery of Primary Care by Medical Auxiliaries: Techniques of Use & Analysis of Benefits Achieved in some Rural Villages in Guatemala." PAHO/WHO Scientific Publication #278, Washington, 1973.

Haiti, government of. "Bulletin d'Information du Project integre de Sante et de Population," #1, April 1977. Department de la Sante Publique et de la Population, Division d'Hygiene Familiale.

Harrison, T.J. "Training for village health aides--The Kotzebue area of Alaska." Public Health Reports (Wash. DC) 80:7 July 1965.

Hasan, K.Z. "Rural health guards in the northern areas of Pakistan: A preliminary evaluation." Assignment Children (Geneva) 33:1 Jan.-Mar. 1976.

"Health Auxiliaries: 3 Experiences." Salubritas, 2:4, October 1978.

Heller, Tom. "Patterns of Medical Practice in England & the Third World." Contact (Geneva) 33, 1976.

_____ and Elliot, C. "Health Care & Society: readings in health care delivery & developments." Monographs in development studies #2, School of development studies Univ. of E. Anglia, 1977.

Hendrata, Lukas. "A Model for Community Health Care in Rural Java." Dept. on service and development, Council of Churches in Indonesia, mimeo.

_____. "Model for community health care in rural Java." Contact (Geneva) 31, Feb. 1976.

Hocking, B. "Health problems and medical care in Papua New Guinea." International Journal of Epidemiology (Oxford) 3 Mar. 1974.

Hoff, W. "Role of the community health aide in public health programs." Public Health Reports (Rockville, Md) 84:11 Nov. 1969.

Hughes, J.P. "Health Care for Remote Areas: An International Conference." Oakland: Kaiser Foundation (Bellagio Conference) 1972.

Institute of Development Studies. Health needs and health services in rural Ghana, Vol. 1. Institute of Development Studies, The University of Sussex, Brighton, United Kingdom, June 1978.

Jafarey, S.A., J. Gilbert Hardee, and A.P. Satterthwaite. "Use of Medical-Paramedical Personnel and Traditional Midwives in the Pakistan Family Planning Program." Demography (Chicago), 5:2, 1968.

Jagdish, V. "Child Care in India--The Integrated Child Development Services Scheme." Journal of Tropical Pediatrics & Environmental Child Health. 23:2, April 1977.

Jannarkar, A.R. and P.M. Shah. "Part-time Village Level Health Workers--'Barefoot Doctors'--at Health Unit, Palghar." Mimeo.

Kielmann, A. and McCord, C. "A Successful program for para-professionals treating childhood diarrhea & pneumonia." 1978, mimeo.

Koch-Weser, D. "Health Care Delivery System without Physicians." in Systems Aspects of Health Planning (N.T.J. Bailey and M. Thompson, eds.), North-Holland Publishing Company, 1975.

Koje Do Community Health and Development Project, Koje Do, Kyung Nam, Korea. "Koje Do project & community medicine." Koje Do, Korea, 1973.

Kromberg, Marit and N.N. Mashalaba. "La Formation des Monitrices en mieux-etre familial au Botswana." Assignment Children, 33:1, Jan.-March 1977.

Lathem, W. and Newbery, A. Community Medicine: Teaching, Research, and Health Care. NY: Appleton-Century-Crofts, 1970.

Lee, Sung-Kwan, Doo-Hie Kim, Soon-Ho Hong, Hie-Kyo Kim, Min-Hae Yeh, Jong-Hak Jung, and Hie-Kap Chae. "A Study of Maternity Aids Utilization in the Maternal and Child Health and Family Planning." Department of Preventive Medicine and Public Health, Kyungpook National University, Korea. Aug. 1972.

Lisowski, F.P. "Barefoot Doctor." Eastern Horizon (Hong Kong) 15:1, 1976.

Logan, M.L. "Katiwala - Trustee of Community Health." Initiatives in Population 2:1, March 1976.

Long, E.C. "Rural health in Guatemala." 1972 - unpublished document presented at Airlie House Conference of Latin America Population Offices.

_____ and D.A. Viau. "Health care extension using medical auxiliaries in Guatemala." Lancet (London) 17(7848) 26 Jan. 1974.

Low Cost Rural Health Care and Health Manpower Training: An Annotated Bibliography with Special Emphasis on Developing Countries. 3 Vols. Ottawa: International Development Research Center 1975, 1976, 1977.

Marchione, T.J. "An Evaluation of the Nutrition and Family Planning Components of the Community Health Aide Programme in the Parish of St. James, Jamaica: An Interim Report of work to Date." Kingston, Jamaica. Caribbean Food and Nutrition Institute, Sept. 1973.

Martens, E.G. "Culture and communications: training Indians & Eskimos as community health workers." Canadian Journal of Public Health (Toronto) 57:11, Nov. 1966.

_____. "Training public health auxiliary workers in community development." Chapel Hill, UNC, May 1963, Comm. Dev. Seminar, Chapel Hill, 5-9 May 1963, mimeo.

National Academy of Sciences. Health, Nutrition and Population, Report of a Study on United States Initiatives for the UN Conference on Science and Technology for Development, Washington, 1978.

National Research Council. "Health Nutrition and Population." U.S. Science and Technology for Development: A Contribution to the 1979 U.N. Conference, National Academy of Sciences, Washington, D.C. 1978.

Neumann, Alfred, Frederick Sai and Silas Dodu. "Danfa Comprehensive Rural Health and Family Planning Project: Ghana." The Journal of Tropical Pediatrics and Environmental Child Health, 20:1, Feb. 1974.

_____, Daniel A. Ampofo, David D. Nicholas, Samuel Ofosu-Amaah and Frederick Wurapa. "Traditional Birth Attendants--A Key to Rural Maternal and Child Health and Family Planning Services." The Journal of Tropical Pediatrics and Environmental Child Health, 20:1, Feb. 1974.

_____, J.S. Prince, F.F. Gilber, and I.M. Lourie. "Danfa/Ghana Comprehensive Rural Health and Family Planning Project: Preliminary Report." Ghana Medical Journal (Accra), 11:1, March 1972.

New, P.K-M. "Barefoot doctors & health care in the People's Republic of China." Ekistics (Athens) 38:226, Sept. 1974.

Newell, K. Health by the People, Geneva: World Health Organization, 1975.

Newkirk, D.D. "Program of rural public health--past, present and future." Vanga, Zaire, Vanga Hosp. Dept. of Public Health, Dec. 1972, mimeo.

"New Rural Health Scheme has Poor Impact: Study." The Times of India, p.9, June 9, 1978.

Niameogo, C. "Monitrices de bouillies en zones rurales de Haute-Volta." Assignment Children (Geneva) 35, Jul-Sept 1976.

Nugroho, Gunawan. "New Approaches to Health Care Delivery." Solo, Indonesia mimeo.

_____. "Dana Sehat: an experiment in raising community health standards in Solo (Central Java): community health insurance scheme." Solo, Indonesia, Panti Waliyo Hospital, 1972.

Nutting, Paul A . "An Approach to Utilizing Health Auxiliaries in Direct Patient Care." Indian Health Service, U.S. Department of Health, Education and Welfare, 1977.

Pakistan, Government Planning Commission. "Plan for rural health system in the northern areas of Pakistan." Pakistan, Government Planning Commission, 1973.

Pan American Health Organization. Utilization of Auxiliaries and Community Leaders in Health Programs in Rural Areas, PAHO Scientific Publication No. 296, Washington, DC 1978.

_____. "Guide for the Organization of Health Services in Rural Areas & the Utilization of Auxiliary Personnel." PAHO Scientific Publication #230, Washington, DC 1975.

_____. "Medical Auxiliaries." PAHO Scientific Publication #278, Washington, DC 1973.

Panyavanija, P. and N. Lee. "Hill Tribesmen make good medics." American Journal of Nursing (NY) 69:1 Jan. 1969.

Paton, T.J. "Scheme for Training Medical Auxiliaries." In McGilvray, J.C. and G. Simmons, Review of Health Services in Botswana with Particular Reference to Mission Medical Services, Geneva, Christian Medical Commission, 1972.

Paul, B.J. "Health, Culture & Community: Case Studies of Public Reaction to Health Programs." NY: Russell Sage Foundation, 1955.

Peng, J.Y., Keovichit Srisomang and R. MacIntyre. "Role of Traditional Birth Attendants in Family Planning." Proceedings of an International Seminar held in Bangkok and Kuala Lumpur, 19-26 July, 1974. Ottawa: International Development Research Center, 1974.

Price, ".B. Rural Reconstruction & Development: A Manual for Field Workers, NY: Praeger, 1967.

Rifkin, Susan B. Community Health in Asia: A Report on Two Workshops, Christian Conference of Asian Health Concerns, June 1977.

Rohde, J.E. and Northrup, R.S. "Mother as the basic health worker: training her and her trainees." Paper presented at Bellagio Consultation: New Type of Basic Health Services World-wide & The Implication for the Education of other Health Care Professionals, 1977.

Ronaghy, Hossain A., "Kavar Village Health Worker Project." Tropical Pediatrics and Environmental Child Health, Monograph No. 52, 24:1, February 1978.

_____, Y. Mousseau-Gershman, and A. Dorozynski. (eds) "Village Health Workers: Proceedings of a Workshop Head at Shiraz, Iran, 6-13 March, 1976." Ottawa: International Development Research Center, 1976.

Rosinski, E.F. and Spencer, F.J. Assistant Medical Officer: the training of the medical auxiliary in developing countries. Chapel Hill:UNC Press, 1965.

"Rural Basic Health Services: The Lardin Gabas Way." Contact (Geneva), 41, October 1977.

"Rural Health Scheme." India News, May 22, 1978.

Saddiq, R.M. Miazed, and Torpekai-Miazad. "Primary Health Care in Afghanistan." paper prepared for presentation in Alexandria, Egypt, January 4, 1978.

Santiago, Irene M. "The Para-Medical Training in Davao City." Quaker International Seminar on Southeast Asia: Building Health Through Community Participation and Paramedical Training, Davao City, Philippines and Cilandak, Indonesia, 22 July - 4 August, 1973.

Shah, P.M. "Community participation & nutrition: The Kasa project in India." Assignment Children 35:53-71, 1976.

Sibley, J.R. "Community Health - Progress and Problems: The Kojedo Project (Korea)." In Christian Medical Commission, Annual Meeting, Geneva, 1971.

Sich, Dorothea, Il Soon Kim, Young Key Kim, and Jac Mo Yang. "The Health Post Project: An Approach to Improve Health Care Delivery at the Grass-Roots in Rural Korea." Yonsei Medical Journal, 16:1, 1975.

Smith, Richard A. Manpower & Primary Health Care: Guidelines for Improving/ Expanding Health Service Coverage in Developing Countries. Honolulu: The U. Press of Hawaii, 1978.

Standard, K.L. and O. Ennever. "Community Health Aide Training Program in a Developing Country (Jamaica, W.I.)." Mimeo.

Stromberg, J. "Community involvement in solving local health problems in Ghana." Inquiry (Chicago), 12, June 1975.

Suyadi, A., T. Sadjimin and J.E. Rhode "Primary Care in the Village: An Approach to Village Self-help Health Programs." Tropical Doctor, 7, July 1977.

UNICEF/WHO Joint Committee on Health Policy. "Community involvement in primary health care: a study of the process of community motivation and continued participation." NY, Jan. 1977.

UNICEF/WHO. "Water Supply & Sanitation Components of Primary Health Care: A Study in India." UNICEF/WHO Joint Committee on Health Policy, May 1978.

USAID. Operations Program Grant #519-13-540-173. "Delivery of Primary Health Services to 200 Rural Communities in El Salvador." October 1975.

_____. Project Paper: Mali - Rural Health Services Development, #688-11-590-208. October 1976.

_____. Project Paper: Senegal - Rural Health Services #685-0210. March 1977.

USAID. Guatemala Health Sector Assessment, Human Resources, Annex 5:12, United States Agency for International Development, Guatemala City, 1977.

University of the West Indies. "Report of the work of Community Health aides in the Parish of St. Elizabeth." Kingston: Department of Social and Preventive Medicine, April 12, 1972, mimeo.

Vachrotai, S. "Lampang Project, an alternative approach to rural health care in Thailand." Assignment Children (Geneva) 33:1, Jan-Mar 1976.

Van Etten, G.M. Rural Health Development in Tanzania: a case study of medical sociology in a developing country. Amsterdam: VanGorcum, 1976.

Vintinner, F. J. "Mobile rural health services program in Central America & Panama." American Journal of Public Health (NY) 58:5, May 1968.

"Volunteer Health Promotors Work to Improve Health and Living Standards." In Action, 9:1E, n.d. (World Neighbors, Oklahoma City)

Walker, V. and Williams E. "Evaluation of community health aide program in St. James" Kingston, Ja. U. of W.I., Dept. of Social & Preventive Medicine, 20 June 1973, mimeo.

Werner, David. "Project Piaxtla: Working Towards a Campesino-run Health Care Network in the Mountainous Reaches of Sinaloa and Durango, Mexico." Palo Alto, CA: The Hesperian Foundation, 1975.

_____. Where there is no Doctor. Palo Alto, CA: The Hesperian Foundation, 1977.

Wilksonson, J.L., H. Smith, and O.I. Smith. "Organization and Economics of a Mobile Child Welfare Team in Sierra Leone." Journal of Tropical Medicine and Hygiene (London), Jan. 1967.

Wolstenholme, G. and M. O'Connor. Teamwork for World Health. London: J. and A. Churchill, 1971.

WHO, Brazzaville. "Auxiliary Health Personnel: Report on a Seminar, Brazzaville, 6-13 October, 1971. Brazzaville, WHO, 26 Jan. 1972. WHO/AFR/E&T/53.

WHO, Geneva. "Consultation on classification of auxiliary health personnel: report." Geneva: WHO, Apr. 1972, WHO/EDUC/72:154.

_____. The Primary Health Worker: Working Guide, Guidelines for Training, Guidelines for Adaptation. Geneva, WHO, Experimental Edition, 1977.

_____. Primary Health Care. A Joint Report by The Director-General of the World Health Organization and The Executive Director of the United Nations Children's Fund. New York, 1978.

II. AGRICULTURE

Academy for Educational Development. The Basic Village Education Project, Guatemala, Second Interim Report, Field Operations, July 1974-June 1975. Prepared by the Academy for Educational Development under Contract No. AID/CM/la-C-73-19 for the Division of Education, Science, and Technology, Office of Development Resources, Bureau for Latin America of USAID.

_____. The Basic Village Education Project, Guatemala. Third Interim Report Evaluation Component, University of South Florida, July 1976.

_____. The Basic Village Eudcation Project, Guatemala. Third Interim Report, Field Operation, June 1975-June 1976.

_____. The Basic Village Education Project, Guatemala Oriente Region, Combined Report, 1973-1976, Aug. 1977.

_____. The Basic Village Education Project, Guatemala Field Operations - Occidente Region, 1974-1977, June 1978.

_____. The Basic Village Education Project Impact in the Oriente Region of Guatemala: A General Summary. Human Resources Institute, College of Social and Behaviorial Sciences, University of South Florida, March 1978.

Accion Cultural Popular Hondurena. "The Agricultural Education Program of Accion Cultural Popular Hondurena." A Summary Description. Tegucilgalpa, March, 1973, mimeo.

Ahmed, Manzoor. "Building Human Infrastructures to Serve the Rural Poor (Bangladesh)" International Council for Educational Development, "A Project to help practitioners help the rural poor," Case Study #2, Essex, Conn, 1977.

_____. "Farmers Education Program of the Office of Rural Development in the Republic of Korea." International Council for Educational Development, Case Study #5, July 1972, Essex, Conn.

Ammar, Hamed. "Training Workers for Tribal Communities." ASFEC Occasional Papers I , Arab States Training Centre for Education for Community Development, 1964.

Ascroft, Joseph et. al. "Extension and the Forgotten Farmer" Bulleting #37, Extension Education, Agricultural U. of Wageningen, Wageningen, Netherlands, 1973.

Axinn, G. and S. Thorat. Modernizing World Ag: A comparative study for Ag. Ext. Ed. Systems. NY: Praegar, 1972.

Bari, Fazlul. "An Evaluation of the Extension Training Program at Comilla Thana Training and Development Center, Bangladesh," M.S. Thesis, Cornell University, 1977.

Behrhorst, Caroll. "The Chimaltenango Development Project in Guatemala" in Health by the People, Geneva: WHO, 1975.

_____. "Thoughts on Community Services in low-production physically deprived nations" Chimaltenango, Guatemala, 1973, mimeo.

Benor, Daniel and James Q. Harrison. Agricultural Extension: The Training and Visit System. Washington: World Bank, May 1977.

Bond, Carol A. "The Extension Team Village Workshop: A Pilot Project on Integrated Extension Work and Village Planning" (Maunatlala, 25 and 26 Nov.) mimeo.

Cernea, Michael and Bengamin Tepping. A System for Monitoring & Evaluating Agricultural Extension Projects. World Bank Staff Working Papers #272, Washington, Dec. 1977.

Charlick, Robert. "Background Paper prepared for the U.S. - Nigerian Discussions of Niger Cereals Program" Nov. 1976, mimeo.

_____. "Interviews with Hausa Farmers on Agricultural Change and Extension Activities" June 1975, mimeo.

Clark, G.C., M.M. Crowley, B.N. de los Reyes. "First Annual Progress Report on Bangladesh's Field Action-Cum-Research Project on the Development of Small Farmers and Landless Laborers." Small Farmers Development Unit, FAO Regional Office for Asia and the Far East, Bangkok, Thailand, June 1977.

Contado, Tito E. "An Integrated Rural Development Project: The Case of Pinagbayanan Farmers' Association of the UPCA/SEARCA Social Laboratory" University of the Philippines at Los Banos, 1973, mimeo.

Coombs, Philip and Manzook Ahmed. Attacking Rural Poverty & How Nonformal Education Can Help, Baltimore: Johns Hopkins U. Press, 1974.

Di Franco, Joseph. "Importance of Using Rural People as Leaders in Rural Development" Departamento de Economiea Y Extension Instituto Interamericano de Ciencias Agricolas de la Oea - Turrialba, Costa Rica, mimeo.

dela Fuente, Fatima. "People's School Scholars Profile" Occasional Paper #101, International Institute of Rural Reconstruction, June, 1978.

Ennis de Sagasti, Heli E. Effective Communication with the Rural Poor: A Knowledge Base for Action, Vol. I. Sept. 1975, Washington: Academy for Educational Development, 1975.

Gebregziabher, Betru. Integrated Development in Rural Ethiopia: An Evaluative Study of the Chilalo Agriculture Development Unit Indiana: PASITAM 1975.

Gislason, Conrad. "Bas Boen, The Lesson Learned" Haiti, June 1977, mimeo.

Halim, Abdul and A.F.M. Serajul Islam. "Attitude of front line extension workers towards in-service training program." Indian Journal of Extension Education, IX, 1973.

Halse, Michael. Studies in Block Development and Cooperative Organization, Indian Institute of Management, Ahmedabad, India, 1967.

Hatch, John. "Final Report of a Project to Train and Evaluate Farmer Paratechnicians for Agriculture Cooperatives in Cajamarca and Tumbes" Prepared for USAID, April 21, 1978, mimeo.

Hint, Richard and Nancy Truitt. "The PODER Project in Colombia" International Development Review, 13:4, 1971.

Hunter, Buy. "The Daudzai Project: Some Practical Implications for Agricultural Administration" Agricultural Administration, 3:1, Jan. 1976.

International Institute of Rural Reconstruction. The Farmer Scholar Program Vol. 1 Development and Implementation, Vol. 2 Major Concepts and Research to test Strategies, Vol. 3 Lesson Plans. International Institute of Rural Reconstruction, Silang, Cavite, Philippines, 1975.

_____. "The People's School: A Strategy for Integrated Rural Development" International Institute of Rurual Reconstruction, March 1977.

_____. "When the People Participate" IIRR Report, 11:1, Spring 1978.

International Institute of Tropical Agriculture. The NAFPP, A new Dimension for Nigerian Agriculture. IITA, March 1977.

Khan, Adkter Hameed. "Reflections of the Comilla Rural Development Projects" OLC Paper #3, March 1974. American Council on Education, Overseas Liaison Committee, Washington.

Khan, Shoaib Sultan. "Daudzai Project - A Case Study" Journal of Rural Development and Administration, XI; 4, October - December 1974.

Kline, David and R.P. Worrall. Communication and Education for Rural Development. A Professional Development Module. Module Text. Honolulu: East-West Center, 1977.

_____. Communication and Education for Rural Development. A Professional Development Module. Casebook. East-West Center, 1977.

Lele, Uma. The Design of Rural Development: Lessons from Africa. Baltimore: The Johns Hopkins University Press, 1975.

Millikan, May F. and David Hapgood. No Easy Harvest: The Dilemma of Agricultural in Developing Countries Boston: Little, Brown and Co., 1967.

Moncur, Earl. "Structural Elements of Extension Systems in Selected Developing Countries" PhD. Thesis, Cornell University, 1968.

Moris, Jon. "Farmer Training as a Strategy of Rural Development," in Education, Employment and Rural Development: The Proceedings of a Conference held at Kericho, Kenya, in September 1966, ed. J.R. Sheffield, Nairobi East African Publishing House, 1967.

Morss, Elliott, John Hatch, Donald Mickelwait, and Charles Sweet. Strategies for Small Farmer Development: An Empirical Study of Rural Development Projects in the Gambia, Ghana, Kenya, Lesotho, Nigeria, Bolivia, Colombia, Mexico, Paraguay and Peru. Report prepared by Development Alternatives, Inc. for USAID Boulder: Westview Press, 1976.

Moulton, Jeanne Marie. Animation Rurale: Education for Rural Development Center for International Education, University of Massachusetts, 1977.

Niehoff, Richard O. Non-Formal Education and the Rural Poor. Institute for International Studies in Eudcation, Michigan State University, 1977.

Orda, Lily G. "Farmer Leaders Training for Community self-competence in agricultural production" Philippines, University of Los Banos, 1973, mimeo.

"Philippine Study Tour of Barangays." Regional Workshop on the Methods and Techniques of Promoting People's Participation in Local Development, Dec. 1977. UNDP, Economic and Social Commission for Asia and the Pacific. Manila, Philippines.

Purnasiri, Supalak and Robert Griffin. "Summary Report on the Radio Farm Forum Pilot Project," UNDP/DSCS, Bangkok, Nov. 1976, mimeo.

Ragheb, F.M. "Training and the Green Revolution" In Training for Agriculture & Rural Development. Rome: FAO, 1975.

Rao, K.V. Narayana. "Administrative Structure of Community Development Programme." Seminar on Community Development in India, Approaches and Programmes (Jan. 15, 16, 1974) mimeo.

Raper, Arthur R. Rural Development in Action: The Comprehensive Experiment at Comilla, East Pakistan. Ithaca: Cornell University Press, 1970.

Ratnapala, Nandasena, The Sarvodaya Movement: Self-Help Rural Development in Sri Lanka, International Council for Educational Development, Essex, Conn., 1978.

Reddy, G. Ram. Panchayati Raj and Rural Development in Andhra Pradesh, India. Rural Development Committee, Cornell University, 1974.

Roberts, P.A. "Rural Development in Zinder Department: The 3 M Project" March 1977, mimeo.

Roskelley, R.W. "The Farmer Scholar Program." International Institute of Rural Reconstruction, Silang, Cavite, Philippines. mimeo.

"Rural Communication in the Gezira: An Evaluation of FAO Assistance" FAO publication #TF/SUD.17(FH). Rome: FAO, 1977.

"Rural Television: Sudan's First Experiences" Ideas & Actions #110, 1973/3 Rome:FAO.

Saunders, Robert. "Traditional Cooperation, Indigenous Peasant's Groups & Rural Development: A Look at Possibilities & Experiences" Background paper, RORSU Aug. 1977, mimeo.

Sheffield, J.R. and Diejomach. Non-formal Education in African Development NY: African-American Institute, 1972.

Sinha, P.R.R. Studies in Extension Education, National Institute of Community Development Hyderabad, India, 1972.

"Special Report on BRAC" World Education Reports, #13, Nov. 1976.

Sreesunpagit, Adisak. "Effectiveness of Three Techniques of Identifying Leaders in Lam Pao Irrigation Project, Northeast Thailand" Summary of Doctoral Thesis prepared by UNDP/DSCS, Bangkok, 1976, mimeo.

Stevens, Robert D. "Comilla Rural Development Programs to 1971" In Rural Development in Bangladesh and Pakistan, editors R.D. Stevens, Hamza Alavi, and P.J. Bertocci, Honolulu: East-West Center, University Press of Hawaii, 1976.

Straub, Gordon A. "The Basic Village Education Monitor (Guatemala)." Washington: Academy for Education Development, 1978.

Streeter, Carroll. Reaching the Developing World's Small Farmers NY: Rockefeller Foundation, 1974.

Tecle, Tesfai. "An Economic Evaluation of Agricultural Package Programs in Ethiopia." PhD Thesis, Cornell University, 1973.

Tennessee Valley Authority. Limited Resource Farmers: Proceedings of the Workshop on Methods of Working with Limited Resource Farmers. February 9-11, 1972. National Fertilizer Development Center, Tennessee Valley Authority, Muscle Shoals, Alabama. Bulletin Y-44, May 1972.

"Thailand: Appraisal of the National Agricultural Extension Project." Report prepared for the World Bank by E.B. Boerema, D. Benor, J.W. Robins and J. Goldberg. August 2, 1976, mimeo.

Thailand, government of. "Chao Phya Irrigated Agriculture Development Project: Evaluation of a pre-service training course for extension agents and farmers' foremen" Discussion Paper #8. Ministry of Agriculture and Co-operatives, Agricultural Extension Department. ILACO. Bankok, June 1975.

_____. "Chao Phya Irrigated Agriculture Development Project, Stage I: Agricultural Extension and Training Section" Technical Note #30. Ministry of Agriculture and Co-operatives, Department of Agricultural Extension ILACO. Bangkok, Jan. 1977.

Training for Agriculture and Rural Development, Rome; Food and Agriculture Organization, 1975.

USAID. Project Paper: Paraguay - Small Farm Technology #526-0109 May 1978.

_____. Project Paper: Bolivia - Village Development #511-0499, March 1978.

_____. Project Paper: Niger - Niamey Department Development #683-0205 March 1977.

_____. Project Paper: Thailand - Agricultural Extension Outreach #493-0280 October, 1976.

_____. Project Paper: Colombia - Small Farmer Development #514-0203 1976.

Westermarck, Harri. Peer Farmers' Role in the Adoption of Recommended Practices. Academic Dissertation. Center for Extension Education and In-service Training, University of Helsinki, 1973.

World Bank. Rural Development Sector Policy Paper. NY: The World Bank, Feb. 1975.

_____. Annual Report. NY: The World Bank, 1976.

_____. World Development Report, 1978, NY: The World Bank, Aug. 1978.

Wortman, Sterling and Ralph W. Cummings, Jr. To Feed this World. Baltimore: The John Hopkins University Press, 1978.

Yasas, Frances Marie, David Drucker, and Pratap Singh Basnyat. "Report to the Office of Technical Cooperation on a Mobile Training Scheme for the Training of Front-line and Supervisory Developmental Personnel in Land-locked and Least Developed Countries of the ECAFE Region." UN Economic Commission for Asia and the Far East, Bangkok, Feb. 1973.

"Young Farmers Training Scheme within the Ganges Kobadak Multipurpose Project," mimeo.

III. GENERAL

Brager, G.A. and F.P. Purchell, Community Action Against Poverty New Haven, Conn.: College & University Press, 1967.

Cohen, John H., et. al. Participation at the Local Level, A Working Bibliography, Rural Development Committee, Cornell University, 1978.

_____and Norman T. Uphoff. Rural Development Participation: Concepts and Measures for Project Design, Implementation and Evaluation, Rural Development Committee, Cornell University, 1977.

Cohen, Robert. "New Careers" Grows Older: A Perspective on the Paraprofessional Experience, 1965-1975. Baltimore: The John Hopkins University Press, 1976.

Coombs, Philip H., R.C. Prosser, Manzoor Ahmed, and B.B. Israel. New Paths to Learning for Rural Children and Youth UNICEF/International Council for Educational Development,1973.

Etling, Arlen Wayne. Characteristics of Facilitators: The Ecuador Project and Beyond Center for International Education, University of Mass., 1975.

Flavier, Juan M. Doctor to the Barrios. Quezon City: New Day Publishers, 1970.

Freire, Paulo. Pedagogy of the Oppressed, NY: Seabury Press, 1970.

_____. Education for Critical Consciousness, NY: Seabury Press, 1973.

Gartner, Alan. Paraprofessionals and Their Performance: A Survey of Education, Health, and Social Service Programs. NY: Praeger Publishers, 1972.

McNamara, Robert S. "Address to the Board of Governors of the World Bank Group," International Bank for Reconstruction and Development, Washington, DC, 1973.

Nelson, V.D. "Assessment of Paraprofessional Staff Performance in Adult Homemaking and Consumer Education Program." PhD. Thesis, Cornell University, 1974.

"NFE and Front-line Development Workers" The NFE Exchange, #7/8, May-July 1977 Institute for International Studies in Education, Michigan State University.

Oshima, Harry T. "Development and Mass Communication--A Re-examination," In Communication and Change, The Last Ten Years--and the Next, Wilbur Schramm and Daniel Lerner, eds. Honolulu: The University Press of Hawaii, 1976.

Riessman, Frank. "New Careers" A Basic Strategy against Poverty, NY: A Philip Randolph Educational Fund, 1966.

_____and Robert Reiff. "The Indigenous Nonprofessional" Community Mental Health Journal #1 Monograph series, 1965.

Srinivasan, Lyra. Perspectives on Non-Formal Adult Learning, NY: World Education, 1977.

Stanfield, Robert E. "The uses of paraprofessionals in the delivery of manpower and social services thorugh public service employment: the Vermont experience" September 1973, Manpower Demonstration, US Department of Labor.

USAID, Report on Women in Development, Office of Women in Development, USAID, Washington, 1978.

APPENDIX 7

Revised
Feb. 16, 1979

PARAPROFESSIONAL SEMINAR SERIES

Fridays, 12:30-2:30

Feburary 2	Introduction to the Seminar series: Professor Milton Esman, Center for International Studies Paraprofessionals in missionary and government health programs in Guatemala: Professor Royal D. Colle, Department of Communication Arts
February 9	Paraprofessionals in the Montero Pilot Rural Health Program: Nancy Ruther, former director of the Program
February 16	UN studies of paraprofessionals: Dr. M. Rao, Social Development Centre, the UN
February 23	Agricultural paraprofessionals: The "Monitor" in the Basic Village Education Program (Guatemala): Professor Royal D. Colle, Department of Communication Arts
March 2	Multi-purpose and mono-purpose paraprofessionals: a Latin American perspective: Mary Hamlin de Zuniga, Association of Community Health Programs (Guatemala)
March 9	Support systems for paraprofessionals: Dr. John Massey, Health Advisor, Health and Nutrition Division, USAID Bureau for Latin American and the Caribbean
March 16	Roles of paraprofessionals: a World Education perspective: Catherine Crone, World Education
April 13	The People's School (The International Institute for Rural Reconstruction): Prof. Lin Compton, Education Department
April 20	Paraprofessionals in the Training and Visis System: John Lindt, The World Bank

Appendix 8a

SUMMARY OF EDUCATION AND EXPERIENCE

Milton J. Esman

Born: Pittsburgh, Pennsylvania--September 15, 1918

Married, 3 children--ages 25, 24, and 22

Education:

1. Public elementary and secondary schools, Pittsburgh, PA
2. Cornell University, A.B. (Government) 1939
3. Princeton University, Ph.D. (Politics) 1942
   Dissertation: The Organization of Personnel Administration

Experience:

1. U.S. Army, November 1942-December 1946.
   October 1945-October 1946 Civil Affairs Officer, Government Section, General MacArthur's GHQ, Tokyo, specializing in problems of executive and legislative reorganization.

2. U.S. Civil Service Commission, March 1947-March 1951.
   Program Planning Officer. Assisted in planning the improvement and modernization of the Commission's philosophy and procedures.

3. U.S. Department of State, March 1951-December 1954.
   Research Officer, Participated in management, evaluation and operation of State Department's research and analysis program.

4. Johns Hopkins University Operations Research Office, April-September 1952.
   On leave from State Department to study effects of military government on leadership patterns in Japan.

5. International Cooperation Administration, December 1954-March 1957.
   International Relations Officer, Chief, Cambodia-Laos Desk, then Vietnam Desk. Participated in policy determination and Washington management of foreign aid programs in these countries.

6. U.S. Operations Mission to Vietnam, March 1957-June 1959. Chief, Program Office. Principal assistant to Director and Deputy on planning, evaluating, justifying and supervising U.S. economic and technical aid program in Vietnam.

7. George Washington University, 1948-1955 (evening sessions). Political Science Department. Lecturer in Political Science and Public Administration.

8. Graduate School of Public and International Affairs, University of Pittsburgh, 1959-1969.
Professor and Director of Economic and Social Development Program, organizing and directing the School's education and research program in economic and social development. This inter-disciplinary program focuses on the developmental problems of the newly independent and other less industrialized nations of Asia, Africa, and Latin America.

9. Advisor to the Prime Minister's Department, Government of Malaysia, 1966-1968.
Advisor on administrative development and reform, as member of the Harvard University Development Advisory Service.

10. Professor of Government and Director of Center for International Studies, Cornell University, 1969-

Dr. Esman's principal teaching, research, and consulting interests are in the following fields:

1. Development Administration--the formulation and execution of developmental plans, programs, and projects and the development of administrative institutions in Third World countries.

2. The politics and administration of rural development in Third World countries.

3. Institution Building--the planning, structuring, and guidance of organizations which promote and protect modernizing functions, techniques, and values.

4. The politics of ethnic, racial and religious pluralism and the processes of regulating communal conflict.

Dr. Esman organized and was the first Research Director of the Inter-University Research Program in Institution Building, a consortium of four university centers studying the institution building process.

Selected Publications:

Administration and Development in Malaysia: Institution Building and Reform in a Plural Society, Cornell University Press, 1972.

Ethnic Conflict in the Western World (ed.) Cornell University Press, 1977, including chapters on "Scottish Nationalism, North Sea Oil and the British Response" and "Perspectives on Ethnic Conflict in Industrialized Societies."

"The Comparative Administration Group: An Interim Appraisal" in Fred Riggs (ed.) Frontiers of Development Administration. Duke University Press, 1971.

"The Elements of Institution Building" in Joseph W. Eaton (ed.) Institution Building: From Concept to Application. Sage Publications, 1972.

"The Management of Communal Conflict," Public Policy, Winter 1973.

The Common Aid Effort, written in collaboration with Daniel Cheever, on the foreign aid program of the industrialized countries and their coordination through the Development Assistance Committee of the OEDC. Published by the Ohio State University Press, 1967.

"The Politics of Development Administration" in Montgomery and Siffin, Approaches to Development, McGraw-Hill, 1966.

"Some Issues in Institution Building Theory" in D. Woods Thomas, et.al., (ed.) Institution Building: A Model for Applied Social Change. Schenkman, 1972.

Local Organization for Rural Development: Analysis of Asian Experience, with Norman T. Uphoff. Special Series on Rural Local Government, No. 19, Rural Development Committee, Cornell University, 1974.

"Communal Pluralism and Conflict in Southeast Asia," in Nathan Glazer and Patrick Moynihan (eds.), Ethnicity, Theory and Experience, Harvard University Press, 1975.

Landlessness and Near-Landlessness in Developing Countries. Research Report prepared with Associates from the Rural Development Committee, Center for International Studies, Cornell University, mimeo, 1978.

APPENDIX 8b February 1978

VITA

Royal D. Colle

PROFESSIONAL FOCUS:

Planning communication systems and developing communication strategy for rural development and non-formal education, including programs related to agriculture, health and nutrition.

EDUCATION:

Ph.D. in Sociology, Cornell University
M.S. in Communication, Boston University
B.A. in Government, University of Connecticut

EMPLOYMENT AND RELATED ACTIVITIES (1966 to present)

Cornell University. Teaching graduate and undergraduate courses coordinating department research activities, conducting research, supersiving graduate student projects, and academic advising of students. Principal courses related to radio and television communication, applications of new communication technology, and designing communication strategies. Principal research activity relates to problems of communicating with rural people.

Related activities:

The World Bank (1978). Consultant on nutrition education and communication on a program for the government of Colombia.

The United Nations (1977-78). Collaborator with the Social Development Division on a three nation study concerning "strengthening the role of paraprofessionals in rural development."

The World Bank (1977). Consultant on communication component of MCH/FP program for the Governments of Mexico and the Dominican Republic.

Agency for International Development (1977). Consultant on planning regional communication and educational technology centers.

Agency for International Development (1976). Consultant for the Government of Indonesia on innovative uses of communication technology and development of software to meet in-school and non-formal education needs of rural Indonesia.

Pan American Health Organization and World Health Organization (1976). Contract for developing a teaching unit on communication for health workers based on research in Guatemala.

Academy for Educational Development (1973-74). As consultant for Basic Village Education project in Guatemala worked on training, production and organization aspects of experimental communication program for low income farm families.

East-West Center, Honolulu (1972, 1973). Resource participant in East-West Communication Institute's specialist training program for family planning communication.

World Bank (1972). Served as communication specialist on World Bank team analyzing and making recommendations on the family planning programs in Malaysia and Singapore.

Ford Foundation in India (1970-71). As project specialist, served at the Uttar Pradesh Agricultural University setting up an agricultural communication center, with a research, academic, and service function designed to provide better linkage between the university and farmers in the community. Also supervised construction and equipping of communication center facilities.

EMPLOYMENT AND RELATED ACTIVITIES (pre-1966)

Ithaca College. Ithaca, N.Y. Chairman, Department of Television and Radio, 1956-66.

Responsible for academic program, student recruitment curriculum development and placement for department with 150 majors. Taught courses in public opinion, radio and television production, and comparative broadcasting systems. Directed operations of first CATV local origination project in the U.S. Produced, wrote and moderated television and radio public affairs programs.

Related activities:

Consultant to the New York State Education Department on ETV; field research supervisor, Richardson, Bellows, Henry & Company, management consultants in New York; and survey research coordinator, Arthur D. Little, Cambridge, Mass.

Co-producer of a motion picture "College Ahead?" for high school guidance programs.

Co-editor and publisher of weekly community magazine, In and Around Ithaca.

U.S. Army 1953-1955. Radio broadcast specialist. Wrote and produced radio documentaries.

PERSONAL

Citizenship: U.S.A.

Birthdate: January 19, 1931

Health: Excellent

Address: Department of Communication Arts
Cornell University
640 Stewart Avenue
Ithaca, New York 14853

Telephone:
Office (607) 256-6500
Home (607) 564-7648

PUBLICATIONS AND PAPERS

Royal D. Colle

Cornell University

"Developing Health Education Programs in Rural Areas," paper prepared for the 2nd International Congress of the World Federation of Public Health Associations, Halifax, Nova Scotia, Canada, 1978.

"Reaching Rural Women: Case Studies and Strategies," paper prepared for the UN Social Development Centre (also in Spanish), 1977 (With Susana Fernandez de Colle).

"Guatemala: The Traditional Laundering Place as a Non-Formal Health Education Setting, CONVERGENCE, Vol. X, No. 2 (Summer 1977)

"Case Studies in Cassette Communication," WACC Journal (London), Vol. XXIV, 3/1977.

"CSCS in Rural Development," in Reports and Papers on Mass Communication, UNESCO, Paris, 1977.

"Communication at the Pila," Cycle Publication (The Ford Foundation), 1976 (with Susana F. Colle).

"Cassette Special Communication Systems: A Preliminary Inventory and Outlook," prepared for international conference on "Non-Formal Education and the Rural Poor," Michigan State University, East Lansing, Michigan, September 1976.

"Plastic Butterflies: An Approach to Media Planning," prepared for the Seminar on Quality in Instructional Radio, University of Massachusetts, Amherst, June 3-6, 1976.

"Communication Systems and the New Rural Development Strategies," prepared for the Summer Program of Advanced Study on Communication Technology in a Changing Society: Explorations in Institutional Reactions -- New Understanding in Communication, East-West Communication Institute, Honolulu, Hawaii, July 1976.

"Better Nutrition: A Communication Problem," prepared for the conference on Improving Nutrition and Nutrition Education Through School Food Service, East-West Food Institute, Honolulu, Hawaii, July 1976.

"Communicating with Villagers," prepared for the Planning Seminar on Agriculture in Nutritional Improvement, East-West Food Institute, Honolulu, Hawaii, August 1976.

The Communication Factor in Health and Nutrition Programs, prepared for the World Health Organization, 1976. (With Susana F. Colle) Spanish version, 1978.

"Distribution Patterns for ACT in Rural Development," VIDURA, Indian Institute of Mass Communication, New Delhi, 1975.

"Stretching Manpower Resources in Rural Development Communication" in Focus: Technical Cooperation, International Development Journal, 1975/3 (September).

"ACT: A New Kind of Communication," Educational Broadcasting International," The British Council, London, 1975.

"Stretching Manpower Resources for Non-Formal Education in Rural Development: A Case Study in Communication," paper prepared for The Adult Education Research Conference, St. Louis, Missouri, 1975. (with Robert G. Terzuola and Susana F. Colle).

"Frontiers of Communication" in Communication Strategies for Rural Development, Proceedings of the Cornell-CIAT 1974 International Symposium, Cali, Colombia. Also published as Paper No. 8 in Papers in Communication, Department of Communication Arts, Cornell University, Ithaca, NY 1975.

"CSCS: An Experimental System for Communicating with Hard-to-Reach People," paper prepared for the 2nd Participants Workshop on Population/ Family Planning Communication, East-West Center, January 1973; also published as Paper No. 1 in Papers in Communication, Department of Communication Arts, Cornell University, Ithaca, NY 1973.

"Communicating with Low Income People: CSCS Research," paper prepared for the Adult Education Research Conference, Montreal, April 1973.

Telecommunications in Asian Development Programs, Paper No. 4 in Papers in Communication, Department of Communication Arts, Cornell University, Ithaca, NY 1973.

"Facts and Hunches on Communication to Implement Program Planning for The Rural Poor," paper prepared for the University of Illinois Fall Extension Conference, Urbana, Illinois, October 1972.

"The Uses of Mass Media in Asian Development," paper prepared for the Upstate Asian Studies Conference, State University of New York, Brockport, NY, October 1972.

"Can India's Agricultural Universities Meet the Communication Challenge," Educational Broadcasting International, December 1971 (with William B. Ward).

"The Indian Television Satellite--What Next," paper prepared for the International Association for Mass Communication Research, Konstanz, West Germany, 1970.

"Birth of a Communication Centre at U.P. Farm Varsity," VIDURA (India), Vol. 7, No. 3, August 1970.

Attitudes Toward Land Use in Cattaraugus County (with Diana Chastain), Department of Communication Arts, Cornell University, 1970.

Attitudes Toward Land Use in Monroe County (with Diana Chastain), Department of Communication Arts, Cornell University, 1970.

Attitudes Toward Land Use in Suffolk County (with Diana Chastain), Department of Communication Arts, Cornell University, 1970.

Attitudes Toward Land Use in Oneida County (with Diana Chastain), Department of Communication Arts, Cornell University, 1970.

Attitudes Toward Land Use in Delaware County (with Diana Chastain), Department of Communication Arts, Cornell University, 1970.

Attitudes Toward Land Use in Rensselaer County (with Diana Chastain), Department of Communication Arts, Cornell University, 1970.

"The Metamorphosis of Aunty," Journal of Broadcasting, Summer 1969, Vol. XIII, No. 2. Also prepared as a paper for the 1968 AEJ meetings, Lawrence, Kansas.

The Data Problem in International Communication, paper prepared for the Conference on the Teaching of International Communication, Racine, Wisconsin, 1969. Published in International Communication as a Field of Study (edited by James Markham), Association for Education in Journalism, 1971.

The Analysis of Mass Media Systems, paper prepared for the 1968 AEJ meetings, Lawrence, Kansas.

"Attitudes on Farm Land Use in New York," Food and Life Sciences, Vol. 1, No. 4, October-December, 1968.

Attitudes on Agricultural Land Use, A Survey of Farm and Community Leaders, New York State College of Agriculture, 1968.

"The Negro Image in the Mass Media: A Case Study in Social Change," Journalism Quarterly, Spring, 1968, Vol. 45, No. 1.

Perspectives on Mass Media Systems, Department of Communication Arts Bulletin No. 4, Cornell University, 1968. (Editor)

"Color on TV," The Reporter, November 30, 1967.

"Organizing an Overseas Mass Media Study Program," NAEB Journal, July-August, 1967, Vol. 26, No. 4. (With M.N. Diskin)

"Communicating to the Poor," ACE Magazine, January-February, 1967.

"Television at the Grassroots: CATV," Journal of Broadcasting, Winter, 1962-63, Vol. 7, No. 1.

"TV-Radio Center for Student and Local Citizens," College and University Business, April, 1959, Vol. 92, No. 4.

"Television Involvement for the TV Teacher," The Role of Production in Televised Instruction, National Association of Educational Broadcasters, 1959.

"College Teachers' Attitudes Toward Closed Circuit Television Instruction," Audio Visual Communication Review, Spring, 1958, Vol. 6, No. 2.

Public Relations for Student Organizations, University of Connecticut, Storrs, Connecticut, 1953, 1960 (mimeographed)

Book reviews

Lerner & Schramm, Communication and Change in the Developing Nations (Journal of Broadcasting, 1968)

Pearson & Anderson, The Case Against Congress (Journalism Quarterly, 1969)

Kaser, Book Pirating in Taiwan (Journalism Quarterly, 1969)

Sarkar, Challenge and Stagnation, The Mass Media in India (Journalism Quarterly, 1970)